



County Borough of Ipswich.

ANNUAL REPORT

OF THE

Medical Officer of Health

FOR

1908.

*ORDERED TO BE PRINTED BY THE SANITARY AUTHORITY,
April 1st, 1909.*

IPSWICH:

GEO. WATSON, PRINTER, WESTGATE STREET.

March 18th, 1909.

GENTLEMEN,

I have the honour to present to you the ANNUAL REPORT for the year 1908, with which is included the First Report of Medical Inspection of the Children attending Public Elementary Schools.

I desire to express my indebtedness to the members of the Public Health Committee, and the Education Committee, for the unvarying support which they have accorded me during the year.

I also beg to thank the members of the staff of the Public Health Department, and the Education Authority, for the admirable manner in which they have assisted me.

I remain, Gentlemen,

Your obedient Servant,

A. M. N. PRINGLE,

Medical Officer of Health.

SUMMARY OF THE VITAL STATISTICS DURING THE YEAR 1908.

Population of the Borough estimated to the middle of ...	...	...	...	...	73,852
the year	...	...	...	...	...
Area of the Borough in acres	...	...	...	...	8,336
Density of the Population : Persons per acre	...	...	...	...	8·8
Marriages : Number, 498 ; Marriage-rate per 1,000 living	...	...	...	...	13·4
Births : Number, 1808 ; Birth-rate per 1,000 living	...	...	...	...	24·4
Deaths : Number, 1059 ; Death rate per 1,000 living (Nett)	...	...	...	...	14·3
Number of Deaths of Infants under 1 year	...	...	...	...	200
Infantile Mortality Rate, Deaths per 1,000 Births	...	...	...	...	110
Zymotic Death-rate per 1,000 living (7 principal Zymotic Diseases)	...	...	...	...	1·02
Phthisis Death-rate per 1,000 living	...	...	...	...	1·43
Death-rate per 1,000 living from other forms of Tuberculous Disease	...	...	...	...	0·67
Respiratory Death-rate per 1,000 living	...	...	...	...	2·39
Cancer Death-rate per 1,000 living	...	...	...	...	1·099

POPULATION.

The Registrar General estimates that the population of the Borough at the middle of 1908 was 73,852.

The estimation of the population of a District at any year during an intercensal period is based on the assumption that the rate of increase which prevailed during the previous intercensal period will be maintained during the subsequent period.

The following Table exhibits the increase which has taken place in the numbers of the population of the town and in the numbers of houses in the Borough, and also the number of inhabitants per house, since 1801.

Census Year.	Population.		Inhabited Houses.		No of Persons. Per House.
	Number.	Decennial Rate of Increase.	Number.	Decennial Rate of Increase.	
1801	11,277		2,170		5·2
1811	13,670	2,393	2,733	663	5·0
1821	17,186	3,516	3,264	531	5·2
1831	20,201	3,015	4,116	852	4·9
1841	25,384	5,183	5,240	1,124	4·8
1851	32,914	7,530	6,979	1,739	4·7
1861	37,950	5,036	8,272	1,293	4·6
1871	42,839	4,889	9,306	1,034	4·6
1881	50,320	7,481	10,812	1,506	4·6
1891	57,081	6,761	12,307	1,495	4·6
1901	66,630	9,549	14,518	2,211	4·6

The facts exhibited by this Table are :—

(1) The rate of increase of the population since the beginning of last century has not been constant, but on the other hand exhibits considerable fluctuations.

(2) The number of persons per inhabited house fell steadily during the first half of the century. During the last half of the century the number has remained constant at 4·6 persons per house.

DISTRIBUTION OF THE POPULATION IN THE TOWN.

On the basis of an estimated population of 73,852, the following would be the distribution of the population in the various Wards of the Borough.

Ward	Estimated Population at the middle of the Year.
St. Margaret's Ward	19,417
St. Clement's Ward	15,301
Middle Ward	7,562
Bridge Ward	13,908
Westgate Ward	17,664
Whole Borough	73,852

AGE AND SEX DISTRIBUTION OF THE POPULATION OF THE BOROUGH.

The following Table exhibits the age and sex distribution of the population. Particular features of interest are the large excess of Females and the high proportion of lives over 70 years of age.

Females account for 53 % of the total population as compared with 47 % for Males.

3 % of the total population are over 70 years of age. Of this group 43 % are males, whilst 57 % are females.

Age Periods.	Males.	Females.	Total.
Under 1 year	788	803	1,591
Under 2 years	855	687	1,542
Under 3 years	726	781	1,507
Under 4 years	860	833	1,693
Under 5 years	771	783	1,554
Total under 5	4,000	3,887	7,887
Under 10 years	3,642	3,723	7,365
Under 15 years	3,609	4,008	7,667
Under 20 years	3,642	4,066	7,708
Under 30 years	6,260	7,056	13,316
Under 40 years	4,724	5,778	10,502
Under 50 years	3,815	4,197	8,012
Under 60 years	2,549	3,013	5,562
Under 70 years	1,479	2,010	3,489
Over 70 years	1,029	1,365	2,394
Total all ages	34,749	39,103	73,852

Thus at all ages save under 5 years of age, the female population is in excess of the male, the total excess of females being 4,354.

The estimated increase of the population during the year was 1027.

The excess of births over deaths, in other words the natural increase of the population, was 749. If therefore the estimated population is correct the excess of immigrants over emigrants must have been 278.

BIRTHS.

1808 births were registered during the year. The birth-rate was thus equal to 24·4 per 1000 living, which is the lowest rate ever recorded in the history of the Borough.

Assuming that the estimated population of the Borough is reasonably near the actual population, the decline in the birth-rate during the last few years is far out of proportion to that which took place previously.

The following Table exhibits the behaviour of the birth-rate since 1870. It is worthy of note that the Rates from 1870 - 1891 are accurate indices of the true birth-rates prevailing during these periods. Since 1901 however the Rates are based upon estimated populations, which become more and more liable to error the further they are removed from a Census year.

Quinquennial Period. Birth-rate prevailing during the period.

1870-1874	...	33·6	} Quinquennial Averages
1875-1879	...	34·5	
1880-1884	...	32·9	
1885-1889	...	31·0	
1890-1894	...	29·6	
1895-1899	...	29·5	} Annual Rates
1900	...	28·3	
1901	...	28·5	
1902	...	27·4	
1903	...	28·4	
1904	...	27·5	
1905	...	27·6	
1906	...	26·5	
1907	...	25·4	
1908	...	24·4	

In the following Table the births are distributed according to their sex, legitimacy, and the various Wards of the Borough.

Distribution of the Births in accordance with Sex, Legitimacy and the various Wards in which they occurred.

Wards.	Legitimate.			Illegitimate.			Total of Legitimates and Illegitimates.			Birth-Rate per 1000 Living.	Per Centage of Illegitimate Births.
	M	F	T	M	F	T	M	F	T		
St. Margaret's	214	190	404	17	13	30	231	203	434	22.3	6.9
St. Clement's	188	173	361	16	9	25	204	182	386	25.2	6.4
Middle	120	98	218	1	5	6	121	103	224	29.6	2.7
Bridge	146	157	303	8	10	18	154	167	321	23.0	5.6
Westgate	221	205	426	9	8	17	230	213	443	25.0	3.8
Whole Borough	889	823	1712	51	45	96	940	868	1808	24.4	5.3

The facts exhibited by this Table are as follows :—

The male births exceed the female births, 52 % of the births being males. This is merely in accordance with universal experience.

In the next place the birth-rate was highest in the Middle Ward. It is more than probable that this advantage is more apparent than real, as probably the population of this Ward is considerably in excess of that estimated, a fact which would of course reduce the rate.

On the other hand the lowest rate was recorded in the St. Margaret's Ward.

Finally the illegitimate birth-rate was highest in the St. Margaret's Ward and lowest in the Middle Ward. It must be recollected however that the Workhouse is situated in St. Margaret's Ward, and that many illegitimates are born in that Institution. This fact probably more than accounts for the difference.

In the following Table is set forth the quarterly distribution of the births :—

March.		June.		September.		December.		Whole Year.	
No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
469	25.4	461	24.9	443	23.9	435	23.5	1808	24.4

The illegitimate births constituted 5.3 % of the total births as compared with 6.6 % and 5.3 % in the two previous years.

MARRIAGES.

498 marriages were registered during the year, as compared with 529 in the previous year. They may be classified as follows:—

Church of England	...	...	270
All others	...	...	228
Total	...	...	498

The marriage-rate was thus equal to an annual rate of 13·4 per 1000 living, as compared with 14·5 in the previous year, and 13·6 in 1906.

DEATHS.

During the year 1908, 1,095 deaths were registered as compared with 1,147 in the previous year, and an average of 1,151 for the previous ten years. Of the deaths registered, 36 were of individuals not inhabitants of the Borough. Thus the total number of deaths of inhabitants of the Borough registered in the Borough was 1,058. To this number has to be added the death of one individual who died outside the Borough, but who was an inhabitant thereof. The total number of deaths of inhabitants was thus 1,059, as compared with 1,090 in the previous year, and an average of 1,096 for the ten preceding years.

In the following Table are given the crude death-rate, the nett death-rate, the corrected death-rate, the comparative mortality figure, and the standard death-rate.

ANNUAL DEATH-RATES PER 1,000 LIVING.				
Standard Death-rate.	Crude Death-rate.	Nett Death-rate.	Corrected Death-rate.	Comparative Mortality Figure.
18·63	14·8	14·3	13·8	938

The Standard death-rate is an empirical ratio, calculated on the hypothesis that the deaths at each age period were at the same rate as in England and Wales during the decennium 1891-1901.

The Crude death-rate is the proportion of deaths per 1,000 living, including non-residents.

The Nett death-rate is the proportion per 1,000 living, of deaths of inhabitants of the Borough only. It is, therefore, the true death-rate of the Borough.

The Corrected death-rate is the death-rate per 1,000 living corrected for age and sex distribution, so as to be comparable with the death-rate obtaining for England and Wales as a whole.

The Comparative Mortality Figure is obtained by comparing the death-rate of the Borough with that for England and Wales taken as

1,000. In other words, the number of people that gave 1,000 deaths in England and Wales gave, in Ipswich, 938 deaths.

With the exception of the year 1902, the death-rates during 1908 were the lowest of which there is any record in the Borough. It is to be noted that this is now the fourth successive year in which the death-rate has been below 15 per 1,000 living. Possibly a small proportion of the death-rate may be accounted for by over-estimation of the population, but, even allowing for this, the continued low rate of mortality must be taken as affording gratifying evidence of the increased healthiness of the Borough.

COMPARISON OF THE DEATH-RATES SINCE 1840.

In the following Table the death-rates prevailing in the Borough since 1840 are set forth, so that it is possible to contrast the rates since that year.

The figures for the years 1840-1870 are given as the averages of the ten-yearly periods, and are crude death-rates, the deaths of non-residents being included.

The death-rates from 1870-1895 are given as quinquennial averages and are also crude death-rates, no deductions having been made for the deaths of non-residents.

The figures for the succeeding years are nett death-rates, and are therefore the true death-rates during these years.

Year.	Death Rates.	
1841-1850	... 23	} Decennial Average Death-rates (Crude).
1851-1860	... 22	
1861-1870	... 22	
1871-1875	... 22·8	} Quinquennial Average Death-rates (Crude).
1876-1880	... 22·4	
1881-1885	... 19·1	
1886-1890	... 18·5	
1891-1895	... 19·4	} Annual Death-rates (Nett).
1896	... 17·0	
1897	... 16·7	
1898	... 16·4	
1899	... 18·5	
1900	... 18·6	
1901	... 17·8	
1902	... 14·2	
1903	... 15·3	
1904	... 15·5	
1905	... 14·6	
1906	... 14·9	
1907	... 14·9	
1908	... 14·3	

The meaning of the fall in the death-rate may be represented by the comparison that if the death-rate during the year 1908 had been the same as that prevailing during the quinquennium ending 1895, the number of deaths registered during the year would have been, in round figures, 370 more than actually occurred.

The fall in the number of deaths represents only a part of the great improvement which has taken place, since it inevitably follows that the amount of sickness must also have diminished in at least a corresponding ratio. It is also clear that the earning capacity of each individual must have increased with the diminution of his sickness disability.

It is frequently suggested that the work of a Public Health Committee is unproductive, but in the light of the figures given it is obvious that this is very far from being the case. These figures clearly show that there is a very great return realised for the moneys expended upon Public Health. It is true that this is not expressible in terms of £ s. d., but it is expressible in terms of diminution of sickness disability and liability to death, which in themselves represent a direct and definite return for the expenditure incurred.

QUARTERLY DISTRIBUTION.

In the next place we have to consider the quarterly distribution of the deaths during the year, comparing it with the average for each quarter of the previous ten years. The figures given are rates per 1000 living.

	March.	June.	September.	December.	Whole Year.
Average of the previous 10 years ...	17·8	14·2	16·2	15·8	16·0
1908 ...	19·0	12·4	11·2	14·6	14·3

Thus in every quarter of the year except the first, the mortality during 1908 was lower than the average of the previous ten years.

The following Table shows the number of deaths registered in each quarter of the year.

March.	June.	September.	December.	Whole Year.
352	229	207	271	1,059

The following Table shows the deaths for each quarter of the year according to the age distribution of the population of the Borough; the heavy mortality in the March quarter amongst the very young and the very old is very conspicuous.

Death-Rates per 1,000 living at each age period during 1908.

The death-rate under 1 year is given as a ratio per 1,000 births; the figures for the remaining periods are ratios per 1,000 living of the estimated population at each age period.

	Under 1 year.	Under 2 years.	Under 3 years.	Under 4 years.	Under 5 years.	Total under 5 yrs.	Under 10 years.	Under 15 years.	Under 20 years.	Under 30 years.	Under 40 years.	Under 50 years.	Under 60 years.	Under 70 years.	Over 70 years.	Total all ages.
Whole Year	110	31·7	10·6	10·0	9·7	37·6	3·8	2·1	1·5	2·9	7·4	9·4	17·4	37·2	119	14·3
March Quarter	136	60·0	29·0	18·9	15·4	56·8	7·0	2·6	1·5	3·3	7·2	9·4	17·2	42·4	182	19·0
June Quarter	95	20·7	10·6	7·0	2·5	30·4	...	1·5	2·5	3·0	5·7	10·9	21·5	27·5	100	12·4
September Quarter	92	28·0	2·9	2·3	10·3	29·4	3·2	1·0	1·0	2·1	10·6	7·4	14·3	28·6	65	11·2
December Quarter	117	18·2	...	11·8	10·3	34·0	4·8	3·1	1·0	3·3	6·0	9·9	16·5	50·4	122	14·6

DISTRIBUTION OF THE DEATHS IN THE BOROUGH.

The following Table shows the distribution of the deaths amongst the various Wards in the Borough, and in Public Institutions.

Ward.	Male.	Female.	Total.	Death Rates per 1,000 living.
St. Margaret's Ward ...	101	119	220	11·3
St Clement's Ward ...	93	92	185	12·0
Middle Ward ...	45	47	92	12·2
Bridge Ward ...	83	84	167	12·0
Westgate Ward ...	114	113	227	12·8
Public Institutions ...	90	77	167	2·26
Whole Borough ...	526	532	1058	14·3

As compared with the previous year, the death-rate was lower in all the Wards except the Westgate. There was a slight increase in the number of Institution deaths.

The deaths in the Public Institutions were distributed as follows :

Institution.	Male.	Female.	Total.
Workhouse ...	47	44	91
St. John's Home ...	1	4	5
East Suffolk Hospital ..	26	18	44
Borough Fever Hospital ...	4	2	6
Borough Asylum ...	12	9	21
Total ...	90	77	167

Thus 15·7 % of all the deaths registered in the Borough occurred in Public Institutions, as compared with 14·6 % in the previous year. There is, therefore, evidence of the same tendency to increase in the number of Institution deaths that has been so evident in the vital statistics of recent years. This tendency is further evidenced by the fact that the number of Institution deaths during the quinquennium ending 1907 was 14·1 % of the total deaths registered, as compared with 12·2 % for the immediately preceding quinquennium.

The principal causes of death in the Workhouse were—Senility 18, Phthisis 11, Heart Diseases 11, Cancer 8, Pneumonia 8, Syphilis 7, and Apoplexy 6.

In the case of the Asylum the chief causes of death were—Heart Diseases 5, Senility 5, General Paralysis 4, and Phthisis 3.

In the East Suffolk Hospital the causes of death were naturally very various.

SUMMARY OF THE PRINCIPAL CAUSES OF DEATH.

In the following Table the principal causes of death are summarised and referred to the quarters of the year in which they occurred.

Cause of Death.	March.	June.	Sept.	Dec.	Total.	Corresponding Fig. 1907.
Respiratory Diseases	91	30	17	39	177	177
Phthisis ...	27	32	20	27	106	108
Heart Diseases ...	21	21	22	18	82	85
Cancer ...	19	11	19	32	81	84
Zymotic Diseases ...	29	2	29	16	76	90
Senility ...	32	12	11	21	76	76
Apoplexy ...	16	9	9	17	51	49
Atroph., Deb., Maras	10	10	12	11	43	43
Other Tubercle Dis.	11	6	10	14	41	42
Prematurity ...	7	11	7	7	32	36
Accidents ...	8	8	7	6	29	30
Urinary Diseases ...	4	5	6	10	25	34
Influenza ..	15	7	1	—	23	15
All others ...	62	65	37	53	217	221
Totals	352	229	207	271	1059	1090

It is of interest to note the great similarity between the numbers of deaths referred to each group in each year.

It is impossible to refer fully to each of these groups in one report. I therefore propose to consider on this occasion only the deaths due to diseases of the Respiratory System, Tuberculosis, and Cancer.

RESPIRATORY DISEASES.

In the following Table the respiratory deaths are classified according as they are referred to bronchitis (acute and chronic), pneumonias, and all other forms of respiratory disease. In the last group are included all forms which cannot be referred to either bronchitis or pneumonia.

The Table at once shows that diseases of the respiratory system accounted for 16·7 % of all the deaths registered during the year, as compared with an average of 14·3 % for the previous ten years.

The facts brought out by this Table are as follows :—

(1) The group of respiratory diseases has played a uniformly high part in the production of the death-rate of the Borough within the period comprised in the Table.

(2) The various forms of bronchitis account for a greater number of deaths than the other members of the group. Thus bronchitis is the cause of 50 % of the deaths from respiratory disease, pneumonia of 42 %, whilst all the other forms account for only 8 %.

(3) The death-rate per 1,000 living from diseases of the respiratory system is higher in Ipswich than in England and Wales as a whole.

(4) The Table affords absolute proof of the predominant influence of the season of the year upon the liability to death from respiratory diseases. Taking the average of the ten years comprised in the Table, 21 % of all the deaths registered during the March quarter were due to respiratory diseases, 15 % of all the deaths registered during the December quarter, 13 % of those registered during the June quarter, and 6 % of those registered during the September quarter.

Taking the average death-rates from respiratory diseases per 1,000 living for the same period of ten years, we find that the death-rate during the March quarter was 3·6 per 1,000, during the December quarter 2·4, the June quarter 1·9, and the September quarter 0·9.

The predominant part played by the conditions prevailing during the March quarter as compared with the other portions of the year is further exemplified by the fact that during the last ten years 41 % of all the deaths due to respiratory diseases occurred in the March quarter, 29 % in the December quarter, 21 % in the June quarter, and only 9 % in the September quarter.

Further light on this question is shed by Table B, in which the deaths from respiratory diseases in each quarter are distributed according to age. It is at once evident that during 1908 the greatest fatality occurred amongst the very young and the very old, and that by far the greatest proportion of these deaths occurred during the March quarter. Over 60 % of the deaths under 5 years of age from respiratory disease occurred during the March quarter, whilst 50 % of the deaths over 70 years of age referred to this group occurred in the same quarter.

TABLE A.

Year.	MARCH QUARTER.						JUNE QUARTER.						SEPTEMBER QUARTER.						DECEMBER QUARTER.						WHOLE YEAR.						
	Bronchitis.	Pneumonia.	All others.	Total all causes.	Death-rate per 1,000 living.	Percentage of the total quarterly mortality.	Bronchitis.	Pneumonia.	All others.	Total all causes.	Death-rate per 1,000 living.	Percentage of the total quarterly mortality.	Bronchitis.	Pneumonia.	All others.	Total all causes.	Death-rate per 1,000 living.	Percentage of the total quarterly mortality.	Bronchitis.	Pneumonia.	All others.	Total all causes.	Death-rate per 1,000 living.	Percentage of the total quarterly mortality.	Bronchitis.	Pneumonia.	All others.	Total all causes.	Death-rate per 1,000 living.	Percentage of the total annual mortality.	Respiratory Death-rate for England and Wales per 1,000 living.
1898	38	26	4	68	4.2	25	10	11	1	22	1.3	10	9	9	3	21	1.3	6	21	15	5	41	2.5	17	78	61	13	152	2.3	14.4	1.7
1899	33	14	1	48	2.9	18	18	17	3	38	2.3	16	1	7	1	9	0.5	2	34	28	6	68	4.2	19	86	66	11	163	2.5	13.6	1.9
1900	68	41	4	113	6.8	28	21	17	2	40	2.4	15	7	7	...	14	0.8	5	14	21	1	36	2.2	13	10	86	7	203	3.0	16.6	2.0
1901	54	22	4	80	4.0	21	7	23	5	35	2.1	12	5	7	4	16	0.9	5	17	14	3	34	2.1	16	83	66	16	165	2.4	13.9	1.6
1902	17	13	4	34	2.0	13	15	8	5	28	1.6	10	8	5	1	14	0.8	6	20	15	1	36	2.0	15	60	41	11	112	1.6	11.5	1.5
1903	22	22	6	50	2.9	18	7	15	3	25	1.4	12	9	11	3	23	1.3	8	32	14	1	47	2.7	16	70	62	13	145	2.1	13.7	1.3
1904	28	27	5	60	3.4	21	10	16	3	29	1.6	13	4	15	2	21	1.3	7	27	16	3	46	2.6	16	69	74	13	156	2.2	14.3	1.4
1905	40	26	7	73	4.1	22	24	8	1	33	1.8	13	8	12	...	20	1.1	8	18	8	3	29	1.6	13	90	54	11	155	2.1	14.9	1.3
1906	26	18	5	49	2.0	17	9	30	3	42	2.3	16	2	10	...	12	0.6	4	15	12	8	35	1.9	13	52	70	16	138	1.9	12.8	1.2
1907	31	28	7	66	3.6	20	18	19	3	40	2.1	15	5	17	3	25	1.2	12	17	25	4	46	2.5	15	71	89	17	177	2.4	16.2	
Average of 10 yrs.	35.7	23.7	4.7	64	3.6	21	13.9	16.4	2.9	33	1.9	13	5.8	10.0	1.7	17	0.9	6	21.5	16.8	3.5	41	2.4	15	75.9	66.9	12.8	156.6	2.25	14.3	
1908	46	40	5	91	4.9	25	14	15	1	30	1.6	13	6	8	3	17	0.9	8	15	21	3	39	2.1	14	81	84	12	177	2.39	16.7	

**Age Distribution of the Deaths from Respiratory Diseases
during each Quarter of 1908.**

Quarter.	Under 1 Year.	Under 5 Years.	Under 15 Years.	Under 30 Years.	Under 40 Years.	Under 50 Years.	Under 60 Years.	Under 70 Years.	Over 70 Years.	Total all ages.
March ...	19	24	2	1	...	3	4	9	29	91
June ...	5	4	...	1	1	3	4	4	8	30
September	...	5	...	...	1	1	3	...	7	17
December	5	4	2	...	1	3	1	9	14	39
Whole year	29	37	4	2	3	10	12	22	58	177
Death-rate per 1000 living at each age period.	18·0	6·0	0·27	0·09	0·28	1·2	2·1	6·3	24·2	2·39

Taking the figures for the whole year, 37 % of the deaths from respiratory disease occurred under 5 years of age, whilst 33 % were over 70 years. Thus 70 % of all the respiratory deaths occurred at these two age periods.

CANCER.

The following Table shows the degree of prevalence of Cancer in Ipswich since 1890 :—

Year.	Cancer Deaths.				Cancer Death-rate per 1,000 living.	
	Male.	Female.	Total.		Ipswich.	England & Wales.
1890	12	24	36	...	0·635	0·676
1891	11	25	36	...	0·630	0·692
1892	15	24	39	...	0·673	0·690
1893	19	25	44	...	0·750	0·710
1894	10	34	44	...	0·741	0·712
1895	13	28	41	...	0·683	0·753
1896	16	28	44	...	0·724	0·762
1897	14	26	40	...	0·651	0·785
1898	19	30	49	...	0·767	0·799
1899	28	26	54	...	0·833	0·816
1900	25	41	66	...	1·004	0·829
1901	26	31	57	...	0·855	0·842
1902	19	30	49	...	0·722	0·844
1903	20	32	52	...	0·771	0·872
1904	19	26	45	...	0·644	0·877
1905	27	40	67	...	0·946	0·885
1906	29	36	65	...	0·905	0·917
1907	35	49	84	...	1·153	0·909
1908	29	52	81	...	1·099	

The facts exhibited by this Table are as follows:—

(1) The enormous disproportion between the male and female deaths is very obvious. Over 62 % of the deaths from cancer belong to the female sex.

(2) It is clear that the number of deaths referred to cancer is steadily on the increase. As a matter of fact, 1908 showed the second highest mortality on record, being only surpassed by the year 1907. It is lamentable to record that for two successive years the cancer mortality has exceeded 1 per 1,000 living.

(3) The amount of cancer as exhibited by the rates per 1,000 living during the first 15 years comprised in the Table was lower on the whole than that in England and Wales. During three of the last four years the Ipswich cancer mortality has been in excess of that of England and Wales.

(4) The Table very clearly shows the progressive increase in the cancer mortality of England and Wales as a whole. The year 1907 marked the first break, though but a small one, in a long series of progressive increases.

Of the deaths from cancer, 79 were over 35 years of age. Cancer thus accounted for 12·5 % of all the deaths occurring over 35 years of age. Expressed in terms per 1,000 living over 35 years of age, the death-rate from cancer amongst males over this age was 2·58, whilst the rate for females over 35 years of age was 3·71. For both sexes the death-rate was equal to a rate of 3·2 per 1,000 living over 35 years of age.

The importance of age in relation to death from cancer is well brought out in the following Table:—

Age Periods.			Death-rate per 1,000 living.	
Under 30 years	0·04
" 40 "	0·19
" 50 "	0·99
" 60 "	1·80
" 70 "	8·02
Over 70 "	12·90

In the following Table the deaths from cancer are distributed throughout the various Wards of the Borough and Public Institutions:

St. Margaret's Ward	...	...	26
St. Clement's "	...	...	10
Middle "	...	...	12
Bridge "	...	...	9
Westgate "	...	...	11
Institutions ...	...	...	13
Whole Borough	...	...	81

In the following Table the cancer deaths are classified according to sex and the part of the body affected :—

Organ Affected.	Males.	Females.	Total.
Tongue ...	—	1	1
Oesophagus ...	2	1	3
Stomach ...	3	6	9
Intestines ...	5	7	12
Rectum ...	4	5	9
Liver ...	6	4	10
Digestive System Total	20	24	44
Head and Face ...	1	—	1
Neck and Throat ..	1	1	2
Head and Neck Total	2	1	3
Urinary Organs ...	2	3	5
Generative Organs ...	—	14	14
Breast ...	—	6	6
Thorax ...	—	—	—
Other parts of the body	5	3	8
Parts not specified ...	—	1	1
Total ...	7	27	34
Grand Totals ...	29	52	81

This Table shows that the principal seats of Cancer in the male are the various parts of the digestive system.

In the case of females the principal parts of the body affected are the various parts of the generative system.

The features of cancer in Ipswich do not appear to differ in any way from those which characterise the disease in other parts of the country.

The prominent fact in connection with cancer is this, that in spite of the improvement which has taken place in the death-rate from practically all the other principal causes of death, cancer, during at least the last 20 years, has receded, that is to say, the death-rate has increased,

TUBERCULOUS DISEASES.

During 1908, the various forms of Tuberculosis accounted for 147 deaths, or 13·8 % of all the deaths registered during the year.

During the 10 years ending 1907, this group of diseases was responsible for 12·1 % of all the deaths registered during that time, the percentage varying from 10 % in 1906 to 14·5 % in 1902. During the same period the number of deaths registered from Tuberculous disease varied from 108 in 1906 to 154 in 1900.

The number of deaths from Tuberculous disease registered during the 10 years ending 1907 was 1333. Of these 982, or 73·7 % were due to Phthisis, the remaining 351 being due to the other forms of the disease.

The 147 deaths from the various forms of Tuberculosis during 1908 were distributed as follows:—106, or 72·1 % were due to Phthisis. Of the remainder 2 were due to Abdominal Tuberculosis, 16 to Cerebral Tubercle, 16 to General Tuberculosis, and 7 to all the other forms of Tuberculosis.

In order to compare the prevalence of Phthisis in Ipswich with that which obtains in England and Wales as a whole the following Table is given.

Year.		Phthisis death-rate per 1,000 living		
		Ipswich.	England and Wales.	
1898	...	1·28	...	1·31
1899	...	1·59	...	1·33
1900	...	1·72	...	1·33
1901	...	1·24	...	1·26
1902	...	1·75	...	1·23
1903	...	1·48	...	1·20
1904	...	1·42	...	1·23
1905	...	1·25	...	1·14
1906	...	1·08	...	1·15
1907	...	1·48	...	1·14
Average 10 years		1·43	...	1·23
1908	...	1·43	...	

It is clear that whilst the Phthisis death-rate in England and Wales has slowly and steadily fallen, that in Ipswich is not only much higher than that of England and Wales as a whole, but also does not show the same degree of downward tendency. It is to be expected however that the smaller community will not show the same steadiness in its statistics as is the case with the community as a whole.

The comparison is carried still further in the following Table, which gives the quinquennial average death-rates per 10,000 living from Phthisis in England and Wales since 1840, and in Ipswich since 1893.

Year.	Quinquennial average death-rates per 10,000 living.		
	England and Wales.		Ipswich.
1840	...	38·8	...
1853	...	28·0	...
1858	...	26·0	...
1863	...	25·2	...
1868	...	24·4	...
1873	...	22·1	...
1878	...	20·4	...
1883	...	18·3	...
1888	...	16·3	...
1893	...	14·5	18·7
1898	...	13·2	15·4
1903	...	12·1	15·5
1908	...	11·6	13·3

This Table shows very clearly the marked fall which has taken place in the phthisis death-rate in England and Wales. The figures for Ipswich also show diminution, but an accurate comparison cannot be obtained for a sufficient number of years to justify the assertion that the diminution in Ipswich has been at the same rate as that in England and Wales as a whole.

The following Table indicates the distribution of the deaths from tuberculous diseases throughout the various Wards of the Borough and in public institutions. The distribution of the deaths during 1908 follows quite closely the average of the previous 10 years save in the case of the Westgate Ward in which there was a marked excess in the phthisis deaths.

A feature of considerable interest in this Table is the fact that 10 % of the deaths from phthisis occur in the Workhouse. The figures of recent years show that the number of Workhouse deaths from phthisis tends to increase. This is due to the wise policy of the Guardians who prefer that a phthisical pauper should be treated in the Union Infirmary rather than be the recipient of Out-relief. It is far better for all concerned that the patient should be treated in the Infirmary and that relief should be given to his family.

Table B gives the age and sex distribution of the deaths from the various forms of tuberculous disease registered during the year. It thus appears that 63 % of the deaths from phthisis were males and 36 % females. This proportion is considerably in excess of the average, since during the previous 10 years, 54·6 % of the deaths from phthisis were males, and 45·4 % females. Males are thus much more liable to fatal phthisis than females. The discrepancy is very marked when expressed in terms per 1,000 living of each sex. Thus in 1908 the death-rate per 100 males living was 1·92, whilst for females it was only 0·99.

Table showing the distribution of the deaths from Pulmonary Consumption and all other forms of Tuberculosis throughout the various Wards of the Borough and in Public Institutions. The average annual number of deaths during the previous 10 years is given for comparative purposes in each case.

TABLE A.

Ward.	St. Clement's.		St. Margaret's.		Middle.		Bridge.		Westgate.		Workhouse.		Other Institutions.		Whole Borough.	
	Average 10 years.	1908	Average 10 years.	1908	Average 10 years.	1908	Average 10 years.	1908	Average 10 years.	1908	Average 10 years.	1908	Average 10 years.	1908	Average 10 years.	1908
Phthisis.	18.0	17	22.9	22	8.5	5	16.4	14	17.5	32	9.8	11	5.0	5	98.2	106
All other forms of Tuberculosis.	5.5	8	6.6	7	1.7	3	6.3	12	7.7	3	2.2	4	3.1	4	35.1	41
Total all forms of Tuberculosis.	23.5	25	29.5	29	10.2	8	22.7	26	25.2	35	12.0	15	8.1	9	133.3	147
Death-rate from all varieties in each Ward during 1908.	1.63		1.49		1.05		1.87		1.98						1.95	

TABLE B.

Age Periods.	♂	Under 1 Year.	Under 2 Years.	Under 5 Years.	Under 10 Years.	Under 15 Years.	Under 20 Years.	Under 30 Years.	Under 40 Years.	Under 50 Years.	Over 60 Years.	Total All Ages.	Deaths in each group at all ages.	Death-rate per 1000 living.
Phthisis.	M	..	..	2	2	1	2	11	22	16	4	67	106	M 1.29
	F	..	..	..	..	1	4	9	13	3	5	39		F 0.99
Abdominal Tuberculosis.	M	..	..	1	..	..	..	..	..	..	..	1	2	1.43
	F	1	..	..	..	..	..	..	..	..	..	1		
Cerebral Tuberculosis.	M	3	..	1	1	2	..	1	..	..	..	8	16	M 0.61
	F	2	2	2	..	1	..	1	..	..	..	8		
Tuberculosis.	M	3	..	1	1	..	..	..	1	..	..	6	16	F 0.51
	F	3	2	1	1	..	..	1	2	..	..	10		
All other forms of Tuberculosis.	M	..	..	..	..	..	..	1	1	2	1	6	7	0.56
	F	..	..	..	..	..	..	1	..	..	..	1		
Total all forms of Tuberculous Disease.	M	6	..	5	4	3	2	13	24	18	5	88	147	M 2.53
	F	6	4	3	1	2	4	12	15	3	5	59		F 1.50
Grand total of all forms at each age period.		12	4	8	5	5	6	25	39	21	10	147		

This excess of male deaths from phthisis is merely the local expression of a general rule. Thus during 1907 the male deaths from phthisis for the whole of England and Wales accounted for 56·8 % of the total deaths from phthisis, whilst the female deaths were only 43·2 % of the total deaths from this cause.

Pulmonary consumption is an infectious disease although prolonged exposure to infection is necessary, and it is now generally admitted that the great majority of cases of phthisis arise from infection from a pre-existing case of the disease. Under these circumstances the question of control must be considered from the point of view of the steps which experience has shown to be practicable in other forms of infectious disease.

I am convinced that the first step in the control of phthisis is the institution of Compulsory Notification. By this procedure an accurate knowledge of the degree of prevalence of the disease will be obtained, a factor which is of the very first importance in the devising of further lines of action. Notification will also permit of the instruction of patients in the proper methods of preventing the spread of the disease, and will enable the Local Authority to carry out any necessary disinfection as required.

The principle of Compulsory Notification is now admitted by the L. G. B. in the circular recently issued making the notification of all Poor Law cases of Phthisis compulsory. The principle underlying this regulation is the necessity of preventing the spread of phthisis amongst this class of patient. Whilst admitting that the spread of the disease is much more likely to occur in the homes of the very poor, it is nevertheless true that the danger also exists in the homes of those who are more fortunately situated. I am therefore unable to see why the regulations should not be extended so as to embrace all classes.

I have no doubt but that notification alone would enable a Local Authority to carry out many procedures of great value to the community and to the individual affected, sufficient indeed to justify its adoption.

If, however, a Sanatorium for Consumptives is ever to be established, I feel that it ought to be preceded by notification, in order that precise and definite information may be obtained as to the numbers of cases of the disease in the Borough, and also as to the particular circumstances of the cases. Without this knowledge the provision of a Sanatorium must be undertaken largely in the dark with inevitable resulting inefficiency and disappointment.

Whilst procedures directed to the prevention of the spread of infection from pre-existing cases of the disease amongst human beings are essential, the part played by Tuberculous Milk, *i.e.*, the milk of cattle suffering from tuberculous disease, especially the udder, must not be neglected. It is therefore necessary that local authorities should be

armed with such powers as will enable them to prevent the sale of such milk for human consumption. To be effective such legislation must apply to the country as a whole.

The sale of Tuberculous Meat is also of importance and for this purpose it is necessary that meat should be subject to efficient and adequate inspection. For this purpose a Public Abattoir is necessary, since it is impossible to ensure the inspection of all carcasses in the case of Private Slaughter Houses.

ZYMOTIC DISEASES.

The Infectious Diseases Notification Act was adopted in Ipswich in 1890 and came into force in April of that year. The diseases to which the Act applies are—Small-pox, Cholera, Diphtheria (including Membranous Croup), Erysipelas, Scarlet Fever, Enteric Fever, Relapsing Fever, Continued Fever, Typhus Fever, and Puerperal Fever.

The following Table shows the total number of cases notified in each year since the adoption of the Act :—

Year.	Number of Cases Notified.		Quinquennial Averages.	
1891	...	316	...	—
1892	...	191	...	—
1893	...	952	...	—
1894	...	812	...	—
1895	...	399	...	534
1896	...	466	...	—
1897	...	192	...	—
1898	...	226	...	—
1899	...	749	...	—
1900	...	332	...	393
1901	...	319	...	—
1902	...	509	...	—
1903	...	296	...	—
1904	...	343	...	—
1905	...	345	...	362
1906	...	289	...	—
1907	...	194	...	—
1908	...	228	...	—

The number of cases notified in 1908 was thus one of the lowest since Notification was adopted. In 1892, 1897, 1898 and 1907 the cases notified were fewer than in the present year, but, bearing in mind the differences in the population, the present year must be regarded as showing a satisfactory general diminution.

The three principal forms of Infectious Disease prevalent in Ipswich are Scarlet Fever, Diphtheria, and Enteric Fever, and it is necessary to pay special attention to those, only cursory attention being paid to the others.

(1) Scarlet Fever.

The following Table shows the degree of prevalence of Scarlet Fever in the Borough since 1891 :—

Year.		Number of Cases Notified.		Attack-rate per 1,000 living.		Number removed to Hospital.		Percentage of Isolation.
1891	...	145	...	2.54	...	89	...	61
1892	...	86	...	1.48	...	46	...	53
1893	...	698	...	11.90	...	148	...	21
1894	...	673	...	11.34	...	245	...	36
1895	...	190	...	3.16	...	92	...	48
1896	...	296	...	4.87	...	97	...	32
1897	...	68	...	1.08	...	40	...	58
Average 5 years		385	...	6.55	...	124	...	39
1898	...	82	...	1.28	...	40	...	49
1899	...	311	...	4.80	...	123	...	39
1900	...	106	...	1.61	...	59	...	56
1901	...	120	...	1.80	...	75	...	62
1902	...	202	...	2.97	...	145	...	71
Average 5 years		164	...	2.49	...	88	...	55
1903	...	146	...	2.12	...	120	...	82
1904	...	122	...	1.74	...	99	...	81
1905	...	102	...	1.44	...	78	...	76
1906	...	119	...	1.64	...	101	...	85
1907	...	75	...	1.03	...	66	...	88
Average 5 years		113	...	1.59	...	93	...	82
1908	...	70	...	0.94	...	56	...	80

The facts exhibited by this Table are :—

(1) The number of cases notified in 1908 was the lowest but one of any year since Notification has been in force.

(2) The degree of prevalence of the disease was the lowest recorded, since in no previous year has the attack-rate fallen below unity.

(3) The percentage of Hospital Isolation has steadily advanced, until now it stands at the excellent figure of about 80 %.

(4) There is distinct evidence of a lessened tendency to violent epidemic fluctuations of recent years.

In the next place, the influence of Scarlet Fever on the death-rate requires consideration, and in order to illustrate this point I have compiled the following Table, which shows the quinquennial average numbers of deaths, and the death-rates per 1,000 living, together with the percentage mortality since 1891.

Year.	Quinquennial Averages.		Death-rates		Case Mortality.	
	No. of Deaths.		per 1,000 living.		per cent.	
1871-1875	..	20·8	...	0·45	...	...
1876-1880	...	19·4	...	0·41	...	...
1881-1885	...	7·4	...	0·14	..	...
1886-1890	...	0·4	...	0·004	...	...
1891-1895	...	7·2	...	0·12	...	6·95
1896-1900	...	3·0	...	0·04	...	1·82
1901-1905	...	1·4	...	0·02	...	1·74
1906	...	2	...	0·02	...	1·90
1907	..	1	...	0·01	...	1·10
1908	...	1	...	0·01	...	1·31

It is at once evident that there has been a very great diminution in the number of deaths from Scarlet Fever during the last 38 years. It is quite certain that this is due more to an alteration in the type of the disease than to diminished prevalence. For example, it is the rare exception nowadays to see a case of genuine Scarlatina Maligna; in fact there have only been three such cases in Ipswich during the last three years.

The following Table indicates the quarterly number of notifications received for each Ward in the Borough, together with the number removed to Hospital from each Ward during 1908 :—

Ward.	Quarterly Notifications.				Whole Year.	No. removed to Hospital.	Percentage of Removals.
	Mar.	June	Sept.	Dec.			
St. Margaret's	4	3	—	2	19	18	94·7
St. Clement's	1	4	3	8	16	16	100·0
Middle ...	1	—	2	3	6	5	83·3
Bridge ...	7	2	—	3	12	5	41·6
Westgate ...	6	10	—	1	17	12	70·6
Whole Borough	19	19	5	27	70	56	80·0

This Table shows that the distribution of the disease was quite in accordance with the population distribution, and that whilst most prevalent during the December quarter, there was a total absence of any evidence of epidemic character. It is noteworthy that all the cases occurring in the St. Clement's Ward were isolated in Hospital.

The following Table shows the age and sex distribution of the disease :—

Age Periods.		Under 1 year.	1 year and under 5 years.	5 yrs. and under 15	15 yrs. and under 25	25 yrs. and under 65	Over 65 years.	All Ages.
No. of Cases Notified.	Male ..	—	9	23	1	1	—	34
	Female ..	—	7	19	7	2	1	36
	Total ..	—	16	42	8	3	1	70

The features of interest in the Scarlet Fever during the year were :—

(1) The extreme mildness of the type. One death occurred, the equivalent of a death-rate of 0.01 per 1,000 living.

(2) The occurrence of two “return” cases. In this instance the infecting case was discharged from Hospital after 58 days stay in the Institution, having suffered from Rhinnorrhœa, which was quite well on discharge. The first “return” case was admitted to Hospital 6 days after this case went home, and the second 11 days after. The cause of the “returns” was the fact that the Rhinnorrhœa returned after the infecting case had been at home for two days. It is needless to add that the infecting case was taken to Hospital as soon as the notification of the first case was received.

(3) The final point of interest was the occurrence of the disease in a female 75 years of age. The case was a perfectly typical one and went on to complete recovery. It is extremely rare to find Scarlet Fever in such an elderly person. The facts in connection with the source of infection in this case are of extreme interest and illustrate the tendency of Scarlet Fever and Diphtheria to coincide. In this instance the infecting case was discharged from one of the Metropolitan Asylum’s Board Hospitals and was sent to Ipswich a few days after. After being in the house for a few days it infected its aunt with typical diphtheria. As soon as this case fell ill the child was sent home, so that it was not possible to examine the child. A few days afterwards the child’s grandmother developed Scarlet Fever, and subsequently the nurse in attendance upon her fell ill with Scarlet Fever. In this case the infecting case, which had been isolated for Scarlet Fever, undoubtedly caused the infection of the aunt with Diphtheria and the grandmother with Scarlet Fever. It was stated that the same result had attended the discharge of the child to its own home, viz., the double infection, though I am unable to vouch for the accuracy of this statement.

Diphtheria (including Membranous Croup).

The following Table shows the degree of prevalence of Diphtheria in Ipswich since 1891 :—

Year.	No. of Cases Notified.	Attack-rate per 1,000 living.	No. removed to Hospital.	Percentage of Isolation.
1891	73	1.27	8	10.9
1892	38	0.65	3	8.0
1893	30	0.51	0	0.0
1894	43	0.72	0	0.0
1895	89	1.48	1	1.1
1896	73	1.20	6	8.2
1897	38	0.61	2	5.3
Average 5 years	54.6	0.90	1.8	2.9
1898	41	0.65	5	12.0
1899	58	0.92	2	3.0
1900	53	0.83	6	11.0
1901	88	1.32	16	18.0
1902	53	0.78	10	19.0
Average 5 years	54.6	1.08	7.8	12.6
1903	50	0.72	18	36
1904	123	1.75	70	57
1905	114	1.61	70	61
1906	78	1.08	53	68
1907	51	0.70	32	68
Average 5 years	80.3	1.17	48.6	58
1908	105	1.42	89	86.4

The facts exhibited by this Table are as follows :—

(1) Diphtheria has been more prevalent of recent years. In this respect Ipswich does not differ from other towns.

(2) The number of cases recorded in 1908 was the third highest since notification has been in force

(3) Hospital isolation was practically not practised until 1902. Since that date the amount of isolation has steadily increased until it reached its high water mark in 1908.

(4) There is little evidence of violent epidemic fluctuation, but rather of a tendency to continued prevalence.

The following Table shows, in quinquennial averages, the numbers of deaths from Diphtheria since 1870, the death-rates per 1,000 living being given at the same time, as well as the case mortality per cent. since 1891 :—

Year.	Quinquennial Averages.			Case Mortality per cent.
	No. of Deaths.	Death-rates per 1,000 living.		
1871-1875	4.6	0.09	—	—
1876-1880	7.6	0.15	—	—
1881-1885	4.2	0.07	—	—
1886-1890	18.6	0.32	—	—
1891-1895	19.4	0.32	34.4	
1896-1900	10.4	0.16	19.6	
1901-1905	11.2	0.15	14.1	
1906	9	0.13	12.8	
1907	8	0.10	15.7	
1908	10	0.13	9.6	

The facts indicated by this Table are as follows :—

(1) Up to 1885 Diphtheria was not a very prevalent disease in Ipswich and caused but a small mortality.

(2) From 1891-1895 the fatality was excessive, averaging 1 in 3.

(3) Since that date the mortality has been markedly lower.

(4) The use of Antitoxin began during the 1896-1900 period.

(5) I have no doubt that the fall in the number of deaths, as represented by the fall in the case mortality per cent. is due to the influence of Antitoxin.

In order to illustrate this point the following Table is appended. In it are shown the numbers of patients treated at the Hospital and the numbers treated at home, the case mortality per cent. being given in each case. The cases are taken as from the year 1903, as the numbers removed to Hospital before that date are too small to afford accurate data.

Year.	Hospital Cases.			Home Cases.		
	No. treated.	No. died.	Case mortality per cent.	No. treated.	No. died.	Case mortality per cent.
1903	18	3	16.6	32	8	25.0
1904	70	1	0.14	53	9	17.0
1905	70	2	2.8	44	8	18.2
1906	53	4	7.7	25	5	20.0
1907	32	3	9.3	19	5	26.3
1908	89	5	5.6	16	5	31.2

At first sight this would look as if there was an enormous advantage in favour of the Hospital. Now, whilst it may be true that Antitoxin treatment may be carried out with greater strictness at the Hospital, the real point of difference lies in the fact that in nearly all the fatal cases outside the practitioner has been called in too late to have any chance of effecting a cure. In other words, he has been given no chance of giving the Antitoxin sufficiently early. The inevitable consequence is the enormous difference in the mortality returns. This is but another and a most powerful argument in favour of early and sufficient Antitoxin administration.

The necessity for early Antitoxin treatment is well illustrated by the following facts in connection with four of the deaths in the Hospital. In one case the child was ill five days before admission, in two cases six days, and in one case seven days. In the case admitted on the fifth day death occurred from cardiac failure on the thirtieth day of illness. In the case of the two admitted on the sixth day of illness, death occurred in one instance on the fifteenth day and in the other on the sixteenth day, in each case from cardiac failure, whilst in the case of the child admitted on the 7th day of illness, death occurred on the 13th day of the disease, and was due to cardiac failure. In all these cases the local condition was quite recovered at the time of death, but the fatal result was due to poisons which had been passed into the system from the local site of the disease before treatment was begun. It is of interest that in three of the fatal cases the primary seat of the disease was in the nose. As Diphtheria is not easily recognised in this position this is a probable explanation of the delay in securing medical advice.

The type of the disease prevalent during the year was one of, on the whole, medium severity. There were very few laryngeal cases.

With regard to the mode of spread of the disease two groups of cases deserve mention.

In the first group the infecting case was one of mild unrecognised Diphtheria, the true nature of which was only determined by bacteriological examination. This child had been visited during the time it was kept at home, a period of fourteen days, by many of its friends. Of these seven subsequently developed Diphtheria.

In the second group the infecting case was one of primary Nasal Diphtheria, which was not removed to Hospital until the seventh day of illness, the case being ultimately fatal. This child played with a group of friends, six of whom ultimately developed Diphtheria.

The influence of schools in the spread of Diphtheria was not conspicuous during the year, in spite of the fact that no fewer than 14 cases of children actually suffering from the disease were found actually attending school. In addition, several cases of mild Diphtheria were discovered through the children being notified to me as being

absent through sore throat. It is my opinion that these cases would have been responsible for several other cases had they not been discovered, for the reason that the parents were quite satisfied that there was nothing seriously the matter and would have sent the children back to school as soon as the local condition was apparently well. It is to be noted that, though the local condition might be apparently quite well, these children would still have been in an infectious state and thus capable of transmitting the disease to others.

I am quite satisfied that the continued prevalence of Diphtheria is largely due to two causes—

(1) The existence of mild unrecognised cases.

(2) The existence of "carriers," by which are meant cases in which the living organisms of the disease are present in the throat or nose, and though the individuals are themselves apparently well, are capable of giving rise to the disease in another person.

In the following Table is set forth the distribution of the disease in the various Wards of the Borough. It will be at once seen that the disease was by far the most prevalent in the Bridge Ward, and that that Ward was responsible for nearly one half of the cases that occurred during the latter part of the year.

Ward.	Quarterly Notifications.				Total Whole Year.	Percentage of Isolation.	
	Mar	June	Sept.	Dec.		No removed to Hospital.	
St. Margaret's	2	—	5	9	16	14	87·5
St. Clement's	1	—	7	16	24	19	82·6
Middle ...	—	—	3	2	5	5	100·0
Bridge ...	4	3	19	22	48	42	89·3
Westgate ...	3	2	4	3	12	9	75·0
Whole Borough	10	5	38	52	105	89	86·4

The following Table gives the age and sex distribution of the cases notified during the year :—

Age Periods.		Under 1 year.	1 year and under 5 years	5 years and under 15 years	15 years and under 25 years	25 years and under 65 years	All ages.
No. of Cases Notified.	Male ...	—	18	32	5	1	56
	Female ...	—	11	34	1	3	49
	Total ...	—	29	66	6	4	105

Enteric Fever.

The following Table shows the degree of prevalence of Enteric Fever in Ipswich since 1891 :—

Year.	No. of Cases Notified.		Attack-rate per 1,000 living.		No. removed to Hospital.		Percentage Isolated.	
1891	...	77	...	1·34	...	31	...	40
1892	...	45	...	0·77	...	18	...	40
1893	...	134	...	2·27	...	47	...	35
1894	...	41	...	0·68	...	10	...	24
1895	...	86	...	1·41	...	24	...	28
1896	...	57	...	0·92	...	18	...	31
1897	...	55	...	0·87	...	28	...	51
Average 5 years	74·6	..	1·23	...	25·4	...	34	
1898	...	67	...	1·05	..	31	...	46
1899	...	284	...	4·38	...	109	...	38
1900	...	92	...	1·40	...	60	...	65
1901	...	62	...	0·93	...	48	...	77
1902	...	173	...	2·55	..	130	...	80
Average 5 years	135·6	...	2·06	...	75·6	...	61	
1903	...	45	...	0·65	...	31	...	69
1904	...	50	...	0·71	...	40	...	80
1905	...	50	...	0·70	...	39	...	78
1906	...	36	...	0·50	...	31	...	86
1907	...	33	...	0·46	...	31	...	94
Average 5 years	42	...	0·60	...	34	...	81	
1908	...	15	...	0·20	...	12	...	80

The facts exhibited by this Table are as follows :—

(1) During the 12 years ending 1902 Enteric Fever was unduly prevalent in the Borough.

(2) During the same time there were three severe epidemics of the disease.

(3) Since 1902 the degree of prevalence of Enteric Fever has been markedly less, in spite of the increase of the population.

(4) The year 1908 was characterised by the least amount of Enteric Fever since notification has been in force.

(5) The degree of Hospital isolation has steadily increased, until now about 80 % of the cases are isolated in Hospital,

The following Table shows in quinquennial averages the numbers of deaths from Enteric Fever in Ipswich since 1871, the death-rates per 1,000 living being also exhibited.

Years.	Quinquennial Averages.			Case Mortality per cent.
	No. of Deaths.	Death-rates per 1,000 living.		
1871-1875	15.4	0.35	...	—
1876-1880	11.8	0.23	...	—
1881-1885	8.6	0.16	...	—
1886-1890	5.4	0.09	...	—
1891-1895	11.6	0.19	...	14.7
1896-1900	13.2	0.20	...	11.9
1901-1905	13.2	0.19	...	16.8
1906	4	0.05	...	12.5
1907	3	0.04	...	9.0
1908	1	0.01	...	6.6

The death-rates per 1,000 living thus show that, especially of recent years, there has been a very definite fall in the numbers of deaths.

The following Table shows the number of notifications per quarter in each Ward of the Borough :—

Ward.	No. of Notifications.					Nos. Isolated.	Percentage Isolated.
	Mar.	June.	Sept.	Dec.	Total.		
St. Margaret's	—	2	—	—	2	1	50
St. Clement's	—	1	3	—	4	3	75
Middle ...	—	—	3	—	3	2	66
Bridge ..	—	—	1	—	1	1	100
Westgate ...	—	2	3	—	5	5	100
Whole Borough	—	5	10	—	15	12	80

The following Table gives the age and sex distribution of the notifications during the year :—

Age Periods.		Under 1 year	1 year and under 5	5 years and under 15	15 years and under 25	25 years and under 65	All Ages.
No. of Cases Notified.	Male ...	—	1	2	2	3	8
	Female...	—	—	2	2	3	7
	Total ...	—	1	4	4	6	15

In seeking for an explanation of the marked diminution of prevalence of Enteric Fever in the Borough of recent years, attention is at once directed to the difference in the method of dealing with the sewage of the Borough. Prior to 1894 the method of disposal of human excreta was by means of privy middens, which were emptied periodically. In 1894 there were more than 8,000 of these in existence in the town. Now there are 39 in the town, with 86 in the outlying districts; that is to say, that between 1894 and 1906 more than 8,000 privies were converted into water closets; in other words, the contents of these 8,000 privies, instead of remaining and decomposing in the immediate vicinity of the homes of the people, are now at once removed by means of the sewers.

A preceding Table has shown that up to the year 1902 more than one half of the cases of Enteric Fever in the Borough were treated at home. Now, the poison of Enteric Fever is discharged from the patient in the faeces and urine. In the case of the privy midden, these had to be deposited in the midden and left there until such time as the midden was emptied. The result was, of course, that that midden became grossly infected with the poison of the disease. When we recollect the enormous numbers of flies which infest these middens during the fly season, which is also the Enteric Fever season, from a simple process of cause and effect, we are provided with a rational explanation of the diminution of the disease. In the case of the water closet the poison is removed as it is deposited. Even at the present time it must be recollected that few patients are removed to Hospital until a few days have elapsed, as the recognition of the disease is not possible until at least five or six days after commencement. This is not, however, a great danger because, although the patient is passing quantities of virulent material, it is at once removed from the locality.

It is only in accordance with experience that the diminution in the prevalence of the disease should not correspond precisely with the numerical diminution in the number of privies, since conditions of soil pollution tend to remain for some considerable time after the removal of the privies.

I have no doubt but that the privy middens were largely responsible for the prevalence of Enteric Fever in Ipswich in the past.

They have been largely responsible for the loss of thousands of pounds in wages, thousands of pounds to the town in the treatment of the disease and the procedures necessary for the control of the disease, and last, but by no means least, many lives.

The prevalence of Enteric Fever in Ipswich is not, however, a simple matter of filth conditions. Recent investigations have shown that a certain proportion of the cases are due to the consumption of Cockles taken from the River Orwell. Without entering into details,

it may be taken as proved that cockles do contain the poison of the disease, and are capable of giving rise to Enteric Fever in the consumer.

The result of this is that, so long as people are allowed to collect cockles from the river for the purposes of food, so long will Enteric Fever persist in the town, for which the town will have to pay, since the vast majority of the people who use cockles for food must be treated at the public expense in the Hospital. Not only so, but the individual who develops Enteric as a result of eating cockles becomes at once a potential source of infection to other people and may thus spread the disease.

Therefore it is of paramount importance that this source of danger should be cut off at its very outset. This can only be done by making the collection of cockles for human food a punishable offence.

Impressed with these considerations, your Public Health Committee have laid the case before the Local Government Board and have requested that they be invested with such powers as will put a final stop to this procedure. It is to be sincerely hoped that the Local Government Board will accord their sanction of this judicious and reasonable request.

In order to illustrate the influence of cockles on the Ipswich Enteric Fever prevalence, I append the following Table. Whilst there may be some doubt as to the value of the figures prior to 1906, there can be none as to those of the last three years, which have been collected with the greatest care. It will be at once noted that the percentage proportion increases during the latter years for the simple reason that as the Enteric Fever due to other causes diminished, that due to cockle infection becomes more pronounced.

Year.		Number of Cases Notified.		Number due to Cockles.		Percentage of Cockle Cases.
1902	...	173	...	35	...	20
1903	...	45	...	5	...	11
1904	...	50	...	2	...	4
1905	...	50	..	9	...	18
1906	...	33	...	7	...	21
1907	...	33	...	9	...	27
1908	...	15	...	7	...	46

Erysipelas.

During 1908, 35 cases of Erysipelas were notified, as compared with 31 in the previous year, and an average of 57·6 for the previous 10 years.

Three deaths occurred from Erysipelas.

I am unable to see any great advantage from the continued notification of this disease.

Puerperal Fever.

Three cases of Puerperal Fever were notified during the year, none of which occurred in the practise of a midwife. The average annual number of notifications during the previous 10 years was 3·4.

Of the cases notified two proved fatal.

Smallpox.

There were no cases of Smallpox notified during the year.

The history of Smallpox in Ipswich since 1871 shows that there were two deaths in that year, 142 in 1872, which obviously represents an epidemic of extreme severity, 1 in 1873, 2 in 1877, 4 in 1878, 1 in 1881, 1 in 1883, and 1 in 1893, which is the last fatal case recorded.

As to notifications 1 case was notified in 1891, 7 in 1892, 14 in 1893, 1 in 1895, 1 in 1896, 1 in 1901 and 5 in 1902.

Obviously there has been but little of the disease in the town for 36 years.

It is to be feared that there is growing up in the town a habit of disregard of the only means of prevention of the disease, viz, efficient Vaccination.

I would therefore point out that Smallpox is not a disease of the past, but that it still exists and that, should it be introduced into an unprotected community the results cannot be otherwise than disastrous in the extreme.

The whole of the teaching of experience shows, and shows in no uncertain manner that Smallpox introduced into a susceptible community spreads in proportion to the degree of lack of protection.

Other Notifiable Diseases.

None were notified during the year.

Measles.

During 1908 there were registered 15 deaths from Measles as compared with an average of 15 for each year since 1870.

The whole of the deaths from Measles occurred during the first quarter of the year, and were the remains of the Epidemic of the previous year.

In previous reports the subject of Measles has received considerable attention. It is therefore unnecessary to treat the matter in this report.

I have but one point to draw attention to, viz, this, that the recent Epidemic has clearly and unmistakeably shown that school closure appears to have had no effect in reducing the mortality from Measles in Ipswich. Since 1890 there have been 7 Epidemics of Measles in Ipswich. Of these the most fatal was in 1890, and the least fatal in 1900. The last Epidemic was surpassed in fatality by no fewer than 5 out of the 7 Epidemics. In all the Epidemics save the last school closure was the rule.

Whooping Cough.

During 1908, 12 deaths were referred to Whooping Cough, as compared with an average of 22 for each year since 1870.

Nine of the deaths from Whooping Cough occurred in the first quarter of the year.

The disease was on the whole much less prevalent than in 1907.

Diarrhœa.

During 1908, 37 deaths were referred to the group of Diarrhœal Diseases, as compared with 15 in the previous year and an average of 67.7 for each of the previous 10 years.

The Diarrhœa death-rate per 1,000 living was equal to 0.50 as compared with an average of 1.0 per 1,000 living for each of the previous 10 years.

In the following Table the deaths from Diarrhœal diseases are referred to the various quarters of the year in which they occurred, the figures for the corresponding quarters of the previous 10 years being given for comparison.

Average annual number of deaths from Diarrhœa	March	June	Sept.	Dec.	Whole year.
1898-1907	2.9	2.6	53.7	8.6	67.7
1908	—	2	24	11	37

It is clear that the maximum Diarrhœa mortality occurs during the September quarter. Indeed the Diarrhœa period is from the middle of August to the middle of October, with maximum prevalence in September.

This feature was fairly well maintained during the present year.

There is no fact in preventive medicine more firmly established than that a long hot rainless summer means a high rate of Diarrhœa mortality and that a cold wet summer means a low degree of prevalence of Diarrhœa.

The last great Diarrhoea year in Ipswich was 1899. In this year 65 deaths from Diarrhoea occurred in September and 53 in October. In the previous year, though the total Diarrhoea mortality was not so great, no fewer than 84 deaths from Diarrhoea occurred in September.

The next most fatal year was 1904 when 31 deaths occurred in September. In 1906 the Diarrhoea mortality was also high, 38 deaths occurring in September.

Whilst temperature has a very marked influence in the production of fatal Diarrhoea, it is not the only factor, since filth conditions play a part second in importance only to temperature conditions.

The influence of Temperature exhibits itself when it is enabled to act upon a soil which is soaked with Organic matter. Such a soil supplies all the pabulum which is required for the growth and development of the germs which are the cause of the Diarrhoeal conditions. In such a soil these germs flourish best when the temperature reaches a certain degree, a degree which is only reached after a long hot summer.

The old Privy Midden system which prevailed in Ipswich supplied the very soil required for this purpose, and there is no doubt but that this method of excrement disposal was a powerful contributory cause of the high Diarrhoea mortality which has characterised the vital statistics of Ipswich up to the last year or two. It is only now that the town is beginning to reap the advantage of the steps which have been taken to get rid of these death dealing structures.

Diarrhoeal conditions are by far the most fatal amongst Infants under 1 year of age. Thus in 1908 no fewer than 32 of the Diarrhoea deaths were of infants under 1 year of age.

The influence of insanitary conditions upon infants is, in this relation, twofold.

In the first place infants react readily to the influence of unfavourable hygienic surroundings, such as those found where the air of the house and the surrounding soil are polluted by organic matter. Under these circumstances the infant is so debilitated that it is unable to resist the attack of such an exhausting disease as Summer Diarrhoea, with the result that death is prone to follow attack.

In the second place such a soil is the one which provide the best pabulum for the growth of the germs which cause the disease, and therefore the liability to develop the disease is much more marked under these conditions.

INFANTILE MORTALITY.

The following Table shows the Infantile Mortality Rates in Ipswich since 1871. The rate is estimated in terms of the proportion which obtains between the number of deaths under 1 year and the number of births registered during that year.

Year.		Infantile Death-rate.		Quinquennial Averages.
1871	...	137	...	
1872	...	184	...	
1873	...	140	...	
1874	...	162	...	
1875	...	137	...	152
1876	...	161	...	
1877	...	143	...	
1878	...	174	...	
1879	...	128	...	
1880	...	170	...	155
1881	...	123	...	
1882	...	142	...	
1883	...	134	...	
1884	...	148	...	
1885	...	134	...	136
1886	...	152	...	
1887	...	128	...	
1888	...	139	...	
1889	...	140	...	
1890	...	127	...	137
1891	...	127	...	
1892	...	155	...	
1893	...	165	...	
1894	...	121	...	
1895	..	181	...	150
1896	...	162	...	
1897	...	136	...	
1898	...	163	...	
1899	...	186	...	
1900	...	161	...	161
1901	...	169	...	
1902	...	121	...	
1903	...	139	...	
1904	...	144	...	
1905	...	146	...	144
1906	...	144	...	
1907	...	106	...	
1908	...	110	...	

It is evident that there has been but little variation in the general features of the Infantile Death-rate. There is no evidence that the infant population has participated in the continuous fall which is the characteristic feature in the general death-rate of the Borough.

It is clear therefore that the conditions which have caused the fall in the death-rate at all ages, have not had the same effect on the infant population. It is not of course conceivable that improved sanitation has had no effect, and there is indeed direct evidence to the contrary, but it is clear that infantile mortality is a special feature of vital statistics, and is due to a definite series of causes peculiar to itself. In view therefore of this fact, and in the light of experience, it becomes evident that the procedures directed towards the betterment of the health of the community as a whole, must be supplemented in the case of the infant population, by procedures designed to meet the special requirements of the case.

A reference to the preceding Table will show that the Infantile Mortality during 1907 and 1908 was the lowest on record. The figure for 1908 is a little higher than that for 1907, but it is a considerable advance on anything previously experienced, with that exception.

During 1907 and 1908 special procedures were in force in the Borough with the direct object of controlling the infantile mortality.

It is therefore not unreasonable to assume that these procedures have been productive of benefit and that at least a part of the lowered infantile mortality is directly traceable to the methods adapted.

The main principle which has underlain the procedures directed to the control of infantile mortality in Ipswich has depended upon the recognition of the fact that action must be taken before permanent damage to the constitution of the infant has been accomplished. For this purpose it was essential to become acquainted with the existence of the infant at as early a date as possible, and therefore a system of voluntary notification of birth was in force in the Borough up to the middle of September, when the voluntary system was replaced by the Notification of Births Act, which came into force at that time. It has therefore been possible for the Health Visitor to give advice as to the management of the infant from its very earliest days.

The following facts are highly suggestive in this relation.

The average number of infants dying under 1 week of age in each of the 5 years ending 1905 was 68. If the same rate of fatality had prevailed during each of the subsequent weeks of life, the whole of the infants born during each of these years would have been dead before the 28th week of life was completed. In 1906, 59 infants died under 1 week. If this rate of fatality had been maintained the whole of the infants born during that year would have been dead before the end of

the 32nd week of life. In 1907 the number of deaths under 1 week was 42. If this rate of fatality had been continued, the whole of the infants born during that year would have been dead at the end of the 49th week.

In 1908, 32 infants died under 1 week. If this rate had been maintained, the whole of the infants born during the year would have been dead within the 56 weeks.

If the enquiry be extended to the deaths under 1 month, we would find that, in the period 1901-1905, if the rate of fatality during the first month had been continued, the whole of the infants would have been dead at the end of the 13th month, in 1906 at the end of the 19th month, in 1907 at the end of the 25th month, and in 1908 at the end of the 29th month.

If therefore the year 1908 be compared with the averages of the 5 years 1901-1905, in the case of deaths under 1 week, it would have taken exactly twice as long for the whole of the infants born in the latter year to be exterminated as compared with the 5 yearly period. In the case of infants dying under 1 month, it would have taken more than twice as long for the whole of the infants born during the year to have died off.

It is very clear therefore that much of the improvement in the infantile mortality has occurred during the very early stages of life, and that this improvement has continued up to the end of the first month. It would be found if the comparison were carried further that the improvement is maintained through all the periods though the difference is not quite so striking.

In my opinion it is impossible to separate this improvement from the steps which have been taken to deal with the problem of infantile mortality. It has been indicated that the scheme adopted in Ipswich is designed to come into effect at the earliest possible moment, and it has clearly been shown that simultaneously with the adoption of the scheme there has appeared a remarkable and definite fall in the number and proportion of the deaths at this period. It is more than possible that a part of this fall is accidental, but I can see no evidence in support of the view that it is all accident. Rather I think the evidence points strongly to the view that the fall in the infantile mortality, coming as it does immediately after the adoption of our scheme, and continuing for a period of nearly two years, and exhibiting its incidence at the precise time of life upon which attention was directed, is in no small part due to the line of action adopted.

The various causes of death in infancy are set forth in the Table at the end of this Report. The following Table is inserted to show the principal causes of death during the last 3 years.

Cause of Death.	1906	1907	1908
Zymotic diseases ...	5	22	10
Diarrhœa ...	67	14	32
Prematurity ...	42	36	32
Atrophy, Debility ...	68	41	43
Respiratory diseases ...	27	36	29
Tubercle ...	6	7	10
All others ...	59	41	44
Total ...	274	197	200

The following Table shows the quarterly distribution of the deaths during the year.

Cause of Death.	March	June	Sept.	Dec.	Whole Year.
Zymotics	8	0	1	1	10
Diarrhoea	2	2	17	11	32
Atrophy, Debility	10	10	12	11	43
Respiratory Dis.	19	5	0	5	29
All others	25	27	11	23	86
Total	64	44	41	51	200

The essential feature of this Table is to show the great influence of season in respect of two groups of causes of death, viz, Diarrhœa, and the group of Respiratory Diseases.

The fatal months for Diarrhœa in Ipswich are the latter end of August, the month of September and the first half of October.

Were it not for Diarrhœa, the infantile death-rate during the September quarter of the year would be very low indeed.

The deaths from Respiratory diseases have already received sufficient attention.

The duty of the Health Visitor is to visit and advise as to the management of infancy. In the course of her work she visited 1,463 infants within 48 hours of their birth. It is obvious that she must in any one day visit homes at widely separated parts of the borough, and thus there is an apparent loss of time. The early visit has however proved itself of such vital value to the welfare of the child that the time is well spent. In addition she made enquiries into the causes of death in 49 instances, and also investigated the circumstances of 45 still-births occurring in the practise of Midwives. She also paid 316 visits to special infants. Her total number of visits was thus 1,873 as compared with 1,528 for the 10 months of 1907 during which she was in the employ of the Corporation.

The results of the enquiries of the Lady Visitor into the methods of the feeding of infants are given in the following Table the corresponding percentages for 1907 being given for comparison.

Methods of feeding.	No. of Infants.	Per centage	
		1908	1907
Wholly Breast fed	1239	84.69	79.90
Partly Breast fed	41	2.80	4.50
Wholly Cows Milk	136	9.30	8.30
Wholly Condensed Milk	24	1.64	3.50
Wholly Patent Foods	23	1.57	3.80
Totals	1,463	100.00	100.00

There is thus evidence of an increase in breast feeding, and distinct diminution in the amount of condensed milk and patent foods.

The increase in breast feeding is very satisfactory, since this factor lies at the very root of the whole problem of infantile mortality.

In this relation I append the following Table of the methods of feeding adopted in 20 cases of death from Diarrhœa.

Cows Milk from Cup and Spoon	...	1	
Cows Milk from a Boat Bottle	...	3	
Cows Milk from a Tube Bottle	...	8	
Total	...	...	12
Breast Fed (wholly)	...	3	
Breast Fed plus Sop	...	1	
Total	...	...	4
Condensed Milk (wholly)	...	3	
Humanised Milk	...	1	
Total	...	...	20

There is thus an enormous preponderance in favour of the natural method of feeding as compared with the artificial. Expressed as percentages the death-rate per cent from Diarrhœa amongst Breastfed infants was 0.32 %, amongst infants fed on Condensed Milk and Humanised Milk 8.5 %, whilst amongst infants fed on cows milk it was 10 %.

Artificial feeding of infants is inevitably associated, especially in the homes of the poorer classes with the difficulty that is impossible to ensure the absolute cleanliness of the food.

It is impossible that milk or any food can be so stored in the cupboards provided in the poorer class homes so as to avoid contamination. Not only so but the parents are lamentably ignorant of the very elementary facts in connection with the preparation of infants food.

The only means of coping with this difficulty is by means of some such scheme as has been adopted in this town.

The following Table will illustrate the difference between the death-rate of legitimate and illegitimate infants. 1908 shows a gratifying fall. Illegitimate infants receive special attention from the Lady Visitor.

Year.	No. of Births.		Death Rate per 1,000 living.		
	Legitimate.	Illegitimate.	Legitimate	Illegitimate.	Both.
1906	1807	102	138	235	144
1907	1734	116	102	232	106
1908	1712	96	106	177	110

BOROUGH ISOLATION HOSPITAL.

The number of cases under treatment in the Isolation Hospital during the year was 187 as compared with 158 in the previous year.

The number of cases remaining under treatment at the end of 1907 was 24. During 1908, 163 new cases were admitted for treatment. Of these 157 were discharged convalescent, and 6 died. There thus remained 24 cases under treatment at the end of 1908.

Of the cases removed to hospital, 158 belonged to the Borough of Ipswich, whilst the remaining 5 cases came from outside the Borough.

The outside cases were 3 of Diphtheria and 2 of Scarlet Fever. All recovered.

Of the 158 cases removed from within the Borough, 56 were Scarlet Fever. Of these none died. There was however 1 death from Scarlet Fever in the case of a child removed to Hospital during the previous year. As there were 17 cases of Scarlet Fever remaining at the end of the previous year the Scarlet Fever mortality was at the rate of 1·3 per cent of the cases treated.

Twelve of the cases removed to Hospital were Enteric Fever. These all recovered.

The remaining 90 cases were diphtheria with one exception, a case which was removed for suspected diphtheria. There was thus 89 cases of diphtheria removed to Hospital. Of these 5 died, a case mortality per cent of 5·6. This is very low, and can only be ascribed to the use of sufficient quantities of Antitoxin. This point is sufficiently dealt with in the section dealing with diphtheria.

I regret to report that one of the Nursing Staff suffered from an attack of scarlet fever acquired in the course of her duties.

Otherwise the Staff was remarkably free from serious illness.

Two "return" cases of scarlet fever occurred during the year. These are sufficiently dealt with in the section dealing with scarlet fever.

The whole of the outside woodwork in connection with the various Wards of the Hospital was painted during the year, as well as the fencing round the Institution, the outside woodwork of the old Administrative Block, and the passages between the Wards. The painting of the New Nurses quarters was left over to the present year.

The whole of the interior of the Old Administrative Block was painted and treated with a final coat of ripolin.

It has been found possible to carry out the extra work entailed by the treatment of so many cases of Diphtheria without increasing the Staff. I must again point out that the Nursing Staff is now at the lowest point consistent with the maintenance of reasonable efficiency, and that any further reduction would be fraught with disaster to the usefulness of the Institution. That the public fully appreciate the value of the Institution is proved by the large number who take advantage of Hospital Isolation. Over 83% of the total cases notified of the diseases which are removed to Hospital were isolated during the year.

I have to thank the Matron and Staff of the Hospital for the loyal assistance given me during the year.

I must point out that the present fireplaces used for heating the Wards are unsatisfactory for the following reasons :—

- (1) The amount of heat is insufficient.
- (2) The distribution of the heat is most unsatisfactory.
- (3) The cost of coal for the Wards is enormous.

MUNICIPAL LABORATORY.

The Laboratory has again proved its value, more especially in connection with School work. The experience of the last year has shown that the Laboratory is an absolute necessity in promoting the efficiency of School Inspection. As an example, of the 14 cases of Diphtheria discovered in the Schools during the year, 9 were discovered by Bacteriological examination alone. It is probable that in the absence of Bacteriological examination those cases would never have been discovered at all, and thus a very extensive Epidemic might have resulted.

In the case of Ringworm again, it is often the case that the only means of being certain that the condition is cured rests with microscopic examination. Many such examinations have been made.

During 1908, 95 swabs were sent for examination by medical men in the town for purposes of examination for Diphtheria. Of these 24 were positive and 71 negative.

These figures do not include examinations made in connection with the schools nor those for the Isolation Hospital.

It must again be pointed out that a negative examination of a swab does not necessarily exclude Diphtheria.

In the case of Enteric Fever, 28 examinations of blood taken from patients were made. Of these 12 were positive, 2 incomplete, and 14 negative.

The widal reaction has proved of the greatest value in elucidating the diagnosis of doubtful cases.

In addition to the above the blood was examined in 6 cases of suspected Bovine Anthrax. In 4 of these cases the Anthrax Bacillus was present.

THE MIDWIVES ACT, 1902.

There are 13 Midwives on the local role. Of these 3 do not practise. Of the practising Midwives 3 are bona fide. The remaining 7 possess qualifications.

The number of confinements attended by Midwives during 1908 was 814, as compared with 944 in the previous year.

Notifications of the sending for medical help were received in 72 instances as compared with 64 in the previous year, 22 in 1906, and 8 in 1905.

The reasons for requiring medical help were in the case of the mother, delayed labour 12, Instruments required 9, Ante Partum Haemorrhage 7, Convulsions 1, Miscellaneous 3; Total for the mothers 42.

In the case of the child, help was summoned in 25 cases for feebleness, and in 4 cases for Convulsions; Total for the child 29.

The number of still-births occurring in the practise of the Midwives was 42, as compared with 30 in the previous year, and 1 in 1906.

64 visits were paid to Midwives in their own homes as compared with 46 in the previous year.

The Act has worked on the whole satisfactorily during the year.

PORT SANITARY AUTHORITY.

It is possible, for the first time in the history of your Authority to present a report indicating that definite steps have been taken to deal with the sanitary condition of the vessels using the Port.

At the end of 1907 an additional Sanitary Inspector was appointed by your Authority, a part of whose duties includes the inspection of the shipping found within the Port. This Official has carried out this part of his duties during the year under my supervision.

The following is a brief summary of the work done.

During 1908, 2,778 vessels of an aggregate tonnage of 259,963 entered the Port. Of these 2,553 were engaged in the Coasting Trade, while 225 were from Foreign. Of the vessels from Foreign, 82 were Steamships of an aggregate tonnage of 58,593, whilst 143 were Sailing Ships with an aggregate tonnage of 37,756. The tonnage of the 2,553 Coasting vessels was 163,684.

The following Table shows the amount of Inspection during the year :—

Total number of vessels inspected	...	...	504
Number of re-visits	...	...	345
<hr/>			
Total of inspections and re-visits	...	...	849
The vessels inspected belonged to the following classes :—			
British Steam Ships	...	...	96
British Sailing Ships	...	...	99
British Barges	...	...	216
Foreign Steam Ships	...	...	33
Foreign Sailing Ships	...	...	60
<hr/>			
Total	...	...	504

The Nationalities of the vessels inspected were as follows :—

British	...	...	...	411
Norwegian	...	...	...	23
Danish	...	...	...	21
German	...	...	...	18
French	...	...	...	10
Swedish	...	...	...	9
Russian	...	...	...	7
Italian	...	...	...	3
Belgian	...	...	...	1
Spanish	...	...	...	1
<hr/>				
Total	...	...	...	504

Of the vessels inspected 205, or 40.67 % showed defective conditions.

The following Table shows the distribution of these defective conditions according to the class of vessel.

Steamships.	No. Inspected.	No. Defective.	Percentage Defective.
Steamships	129	56	43.41
Sailing Ships	159	74	46.54
Barges	216	75	34.72

The defective conditions found during the year were distributed as follows:—

Steamships	...	...	407
Sailing Ships	...	...	324
Barges	...	...	285
Total	...	...	1,016

It is thus clear that several defective conditions may be found on the same vessel.

The chief group of defective conditions discovered was a varying degree of filth in the crews quarters. Of the total number of defects, no fewer than 351 belonged to this group. The worst offenders in this respect were the Steam Ships.

In 90 instances the W.C.'s provided for the crews were in a more or less filthy and dilapidated condition.

Ninety-four defects occurred in connection with the means of lighting the crews quarters. These included total absence of means of lighting, deficient means of lighting, broken and leaky portlights, etc., 53 of the defects of lighting were found on Barges.

Defects in ventilation accounted for 90 of the conditions found. Barges again were the chief offenders.

Defects of cleanliness, lighting and ventilation thus account for 625 of the total defects.

The remaining defects occurred in connection with the means of heating provided, leakages into the crews quarters causing dampness, communications between chain lockers and crew spaces, the keeping of ships stores in the crews quarters, the storage of food and water, overcrowding and accumulations of filth and refuse on the decks of vessels.

In addition 1,586 lbs. of food stuffs were found in such condition as to be unfit for human consumption and were destroyed.

The particulars of 34 cases of sickness were investigated. None of these were of an infectious character.

The principal causes of disability were accidental injuries,

It is thus clear that there was distinct necessity for the institution of inspection of shipping. This necessity will not diminish as time goes on, but will rather increase with expansion of the trade of the Port.

The percentage of defect may appear to be high, but experience has shown that it always is high when inspection is commenced. There is no doubt that it will be lower in the future.

With regard to sickness the necessity for scrupulous care is obvious. As the trade of the port expands, the possibility of the importation of various forms of disease will increase, since greater numbers of vessels will reach the port from more widely separated areas. Any ship from any of these ports may convey to Ipswich any disease which may be prevalent at the time in that particular port.

The new regulations with respect to the inspection of imported food stuffs are now in force in Ipswich. Practically the whole of the Ipswich importation are transshipments.

FACTORIES AND WORKSHOPS.

The inspection of factories and workshops forms a special part of the duties of one of the Sanitary Inspectors. This arrangement is found to work more satisfactorily than the inclusion of the work of factory inspection in the ordinary district work.

The following Tables indicate the amount of work done during the year.

Special attention was paid to the sanitary accommodation provided for the workers with the object of bringing matters up to date. Thus the Tables show that 40 new W.C's were provided, and in 27 instances proper intervening spaces between the W.C. and the workroom.

In connection with outworkers 312 visits were paid to 297 houses in the borough where home work was carried on. In 15 instances these were unsatisfactory and notices were served requiring the carrying out of the necessary cleansing and limewashing. In all cases these requirements were carried out at once.

Although forms are sent out twice yearly to the employers of outworkers on which they may make their returns, in 10 instances it was necessary to send a second notice before the lists were returned.

It is unfortunate that the keeping of lists of outworkers is not yet properly carried out, with the result that the lists sent to the Local Authority are frequently incorrect. In many cases the addresses are incorrect, in some cases the person has been dead for some time, and in other instances the firm have not employed him for upwards of 6 months prior to sending in the lists.

On the whole the various factories and workshops in the town are kept in a satisfactory condition.

INSPECTION OF FACTORIES & WORKSHOPS, Report on 1908.

	Inspections.		San. Notices.	
Factories	...	270	...	33
Workshops	...	181	...	21
Workplaces	...	28	...	4
		<hr/> 479		<hr/> 58

Defects.

	Found.		Remedied.	
Want of Cleanliness	...	7	...	7
Want of Floor drainage	...	2	...	2
Other Nuisances	...	12	...	12
Sanitary } Insufficient	...	11	...	10
Accom- } Unsuitable or defective	...	33	...	29
modation. } Not separate for Sexes	...	4	..	3
		<hr/> 69		<hr/> 63
Breach of San. Requirements Bakehouses	...	7	...	7

	Factories.	Work Shops.	Work Places.	Total
New W.C.'s provided	31	6	3	40
Intervening Vent Space to W.C.'s	23	4	..	27
Gullies removed outside	4	3	...	7
New Urinals provided	5	...	...	5
Pail Closets provided	4	...	...	4
W.C.'s cleansed, unblocked, etc.	8	4	...	12
Doors made to open outwards	3	2	...	5
Means of escape in case of Fire	3	1	...	4
	<hr/> 81	<hr/> 20	<hr/> 3	<hr/> 104

Intimations from H.M. Inspector of Factories

5

The following Tables show the numbers of Factories & Workshops on the Register at the end of the Year.

Factories on Register at the end of the Year.

Breweries	3	Book Binders	3	Sacks, Tents, etc.	4
Bottle washers, etc.	4	Jam Factory	1	Sugar Boilers, etc.	3
Boot Factories	5	Laundries	4	Saw Mills	25
Box Factory	1	Maltings	10	Ship Yards	3
Brick Works	4	Meat Factors	7	Tea Mixing, Currant	
Cabinet Works	4	Mineral Water Wks.	7	Dressing	3
Chemical Manures, etc.	5	Mills	15	Tan Works	1
Coach Builders	1	Organ Builders	1	Tobacco	1
Engineers, Iron		Printers, etc.	33	Soap Manufacturer	1
Founders	28	Paper Mills	1	Wholesale Bakers	3
Gas Producer Works	4	Seed cleaning, etc.	7	Jewellers	2
				Total	206

Workshops on Register at the end of the Year.

Bakers	102	Furniture & Cabinets	11	Maltings	5
Builders, etc.	33	Jewellers	5	Stone Masons	5
Beer Bottling	3	Laundries	3	Saddlery, Boots, etc.	29
Brick Makers	3	Lime Burners	2	Tailors	51
Basket Makers	1	Milliners	28	Wheelwrights	8
Dress Makers	57	Motors & Cycles	14	Others	2
Sugar Boilers	5	Sacks, Tents, etc.	4	Upholsterers	5
Engineers & Smiths	29	Milk Depôts	3		
				Total	408

Provisions of the Factory Acts with reference to Home Work.

List of outworkers received twice in the year 68, and involving 11 contractors and 566 outworkers.

Of these outworkers 440 were employed in the making of wearing apparel, 102 in the repairing of sacks, 19 in connection with furniture and upholstery, and 5 in the making of paper bags and boxes.

List of outworkers received once in the year 1, involving 2 outworkers, employed in the making of paper bags and boxes.

The addresses of 8 outworkers were forwarded to other Authorities.

Eleven notices were served on employers, with reference to the keeping and sending of lists of outworkers.

GENERAL OBSERVATIONS.

At the beginning of 1908 an additional Sanitary Inspector took up his duties in the Borough. The appointment of this Inspector has made possible much work that was previously left undone.

For Sanitary Inspection purposes the Borough is now divided into three districts for each of which one of the Inspectors is responsible, subject to the supervision of the Chief Inspector. The Chief Inspector is responsible to the Medical Officer of Health for the whole of this work.

A system of house to house inspection has been inaugurated which will prove of great value.

As there are 26 slaughter houses in the Borough, and as the periodic and frequent inspection of these houses is essential and impossible of management by one Inspector, each Inspector has been made responsible for the slaughter houses in his own district. This arrangement has made more frequent and thorough inspection both of houses and food possible.

Each Inspector carries out the various duties of removal, disinfection and enquiry in the case of Infectious Diseases in his district.

Each Inspector has been appointed as an Inspector under the Contagious Diseases Animals Acts, so that he is enabled at once to deal with any case which may occur in his district.

At the beginning of the year the Public Health Committee resolved that drain testing of occupied houses should be undertaken by the Officers of the Public Health Department. This duty is now undertaken by each Inspector in his own district. The result has been a serious addition to the work of the Inspectors, but the work is of such essential importance that the time which might be devoted to other work must now be given up to this duty. Thus during 1908, the drainage of 261 properties was tested in whole or in part, necessitating no fewer than 744 visits for the purpose. As each test takes at least $1\frac{1}{2}$ hours it is clear that a very considerable amount of the Inspector's time is devoted to the work. It is quite unlikely that the amount of work required under this heading will diminish, as the public fully realise the value of a sound and efficient system of drainage.

In addition to the general duties of Sanitary Inspection each Inspector discharges special duties which are carried out by himself alone. Thus the Chief Inspector is the Inspector under the Food and Drugs Act, the Dairies, Cowsheds and Milkshops Orders, and of Common Lodging Houses.

Inspector Smith is the Inspector of Factories and Workshops, whilst the duties of Port Sanitary Inspector are carried out by Mr. Plant.

Up to the present these arrangements have worked satisfactorily.

During the year the Council adopted the Public Health Amendments Act, 1907, and thus secured many valuable powers.

SALE OF FOOD AND DRUGS ACTS.

One hundred and ninety one samples were taken by the Inspector during the year as compared with 29, 49, 70, 82 and 176 in the 5 preceding years.

The following Table shows the numbers of samples taken during the year together with the number adulterated or otherwise unsatisfactory, and the results of action.

Articles.	No. of Samples.	No. adulterated.	No. prosecutions.	No. convicted.	Fines.
Milk	128	8	6	6	£4 12 0
Butter	38	2	2	2	£3 18 0
Margarine	8	...	...	...
Cream	6	4	1	1	£4 6 6
Cheese	4	...	...	...
Bread	3	...	...	...
Coffee	3	...	...	...
Articanus	1	...	...	...
Totals	191	14	9	9	£12 16 6

Of the 8 samples of unsatisfactory milk, 1 was below the standard, 1 was of the lowest quality with added preservative in addition, 1 contained added water and a preservative, 3 contained preservatives. Two samples were just below the standard.

Three samples contained added colouring matter.

Of the 128 samples of milk, 106 were taken on the round and 22 in the shops. Of the samples taken on the round 4 were unsatisfactory and of these 2 were the subject of prosecution whilst 2 were cautioned. Of the 22 samples taken on the rounds 4 were of such a nature as to require prosecution.

Thus 18% of the samples taken in the shop were not satisfactory, whilst only 3.77% of those taken on the round were unsatisfactory. Both these proportions are a little lower than in previous years.

Of the 6 samples of cream only two were cream pure and simple. Of the 4 adulterated samples there were three with excess of preservative, whilst in one case there was a very marked excess of preservative—39.9 grains per pound.

In all cases both milk and cream the added preservative belonged to the Boron group.

The two samples of butter not genuine were margarines.

There were two prosecutions for the selling of margarine in an unstamped wrapper. In each case a conviction was obtained and fines amounting to £3 5s. 0d. were imposed.

During the hearing of one of the milk cases the vendor stated that he had not added Boric Acid to his milk, but that he had used a substance named "Articanus." A sample of this material was obtained and submitted to the Public Analyst, who reported that the composition of the sample was as follows :—

Boric Acid	...	79.20 %
Borax	...	12.87 %
Moisture and traces	...	7.93 %

WATER SUPPLY.

The water supply of the Borough is obtained from a deep well in the chalk supplemented by a number of small surface supplies.

The following Table indicates the sources of supply and the amounts derived from each:—

	Gallons.
Total water from the deep well in the chalk ...	496,596,000
Total amount from surface supplies ...	65,000,000
Total water supply for all purposes ...	561,596,000
Average supply per day for all purposes ...	1,538,000
Supply per head per day for all purposes including Trades	20.5

Samples have been taken frequently during the year and submitted for analysis. The results have shown that the water from the deep well is always of a high degree of purity. The waters from gravitation sources do not show the same degree of purity, but are of such a character as to be quite fit for human consumption.

Two of the waterheads in the Spring Road district which showed a conspicuously high degree of Chlorine and Nitrates indicative of a certain degree of pollution have been permanently disconnected.

It must be borne in mind that the cardinal principle in deciding upon the fitness of a water for a public supply is that it shall be above suspicion. For this reason it is necessary to exercise the utmost vigilance in respect of each waterhead of the surface supplies.

BOROUGH OF IPSWICH.

Report of Sanitary Inspector, Inspector under Sale of Food and Drugs Act, Inspector of Butter Factories, Inspector of Common Lodging Houses, Inspector under the Dairies, Cowsheds and Milkshops Orders, and Inspector under the Contagious Diseases (Animals) Acts, for the year ending 31st December, 1908.

Number of Complaints received	...	247
Number of visits to houses and premises	...	6291

Result of Inspections.

Intimation notices served	...	469
Number of letters issued	...	573
House drains re-constructed, cleansed and trapped	...	310
House drains tested (complete)	...	232
House drains tested (partly)	...	29
Visits for tests and re-tests	...	744
New w.c.'s provided	...	64
Defective w.c. pans	...	63
Dirty w.c.'s	...	26
Water laid on to w.c.	...	6
Gullies fixed	...	74
Houses in a dirty state	...	174
Premises in a dirty state	...	7
Washhouses repaired, limewashed, etc.	...	25
Overcrowding reduced	...	9
Removal of animals improperly kept	...	227
Removal of accumulations of manure, etc.	...	52
Manure bins repaired	...	6
Smoke nuisances abated	...	3
Want of ventilation to rooms, etc.	...	136
New sinks and wastes fixed	...	96
Privies and soil bins done away with	...	28
Pail closets done away with	...	10
New privies built	...	1
Privies repaired, etc.	...	21
Damp houses	...	19
Ash receptacles renewed	...	20
Urinals repaired and cleansed	...	11
Dead wells filled in	...	29
Houses closed as unfit for human habitation	...	5
Want of general repairs to houses	...	119
New paving to yards and sculleries	...	91
Defective eaves troughing	...	45
Offensive trades	...	2
Killing on unlicensed premises	...	4
Legal proceedings	...	<i>nil</i> ,

Infectious Diseases.

Number of cases removed to Isolation Hospital	157
Number of enquiries made re notified cases of Infectious Disease	188

Disinfecting.

Rooms disinfected after Notifiable Infectious Disease	247
Rooms disinfected after Phthisis	144
Rooms disinfected after Cancer	9
Articles of Bedding, Clothing, etc., disinfected in Steam Disinfector at Isolation Hospital	3,894
Articles of Bedding, Clothing, etc., burnt	32
Council and Voluntary Schools disinfected	10
Class rooms disinfected	3

The Ambulance Brougham and Bedding Van have been disinfected after removals.

Mortuary.

Twenty-eight bodies were removed to the Mortuary, viz.—
18 males and 10 females.

Water Supply.

Samples taken from Corporation supplies for Chemical examination	44
" " " " Bacteriological "	3

Butter Factory.

At a meeting of the Ipswich Town Council held November 9th, 1908, I was appointed Inspector of Butter Factories in compliance with Section 2 (2) of the Butter and Margarine Act, 1907.

There is only one factory registered in the Borough. I made an inspection of same; at the time of my visit I found the machinery being overhauled and cleaned. No butter was in process of manufacture or blending.

Bakehouses.

The Bakehouses as a whole are fairly well kept.

Thirteen notices were served for structural alterations, cleansing, etc.

One bakehouse was pulled down to the ground and re-built owing to its dangerous condition. Three new bakehouses have been opened.

Slaughter Houses.

There are twenty-six slaughter houses and one knackers yard in the Borough.

Nine notices were served for repairs, etc.

The half-yearly limewashing was carried out satisfactorily in the majority of slaughter houses.

Common Lodging Houses.

The eight Registered Lodging Houses have remained in occupation during the year. They have been fairly well kept.

Seven notices were served for sanitary amendments.

Notices were served on all the occupiers of the said houses in September calling their attention to the provisions contained in Part V. of the Public Health Acts Amendment Act, 1907, with respect to Common Lodging Houses.

Public Urinals.

The eleven Urinals and two w.c.'s have been cleansed daily throughout the year, and those in the centre of the town twice.

In November a new six stall urinal was opened in Long Street, which has since been cleansed daily.

There are now twelve public urinals and two w.c.'s.

Dairies, Cowsheds and Milk Shops Orders.

The Register of Cowkeepers and Dairymen has not been revised during the year, this being my first year as Inspector under the Dairies, Cowsheds and Milkshops Orders.

Number of Cowkeepers and Dairymen on Register was 32 at end of year. Two cowkeepers have given up.

One new cowshed has been built.

Inspections of several of the cowsheds was made, and it was found that they were not generally kept in compliance with the Byelaws.

The Register of Purveyors of Milk has been revised during the year.

Number of Purveyors of Milk on the Register was 122 at end of year.

Thirty-three purveyors have been registered. Five purveyors have given up.

All premises occupied by Purveyors of Milk have been visited. Many of them are far from satisfactory, being general shops and other unsuitable places.

Contagious Diseases (Animals) Act.

During the year the Inspectors of the Health Department were appointed Inspectors under the Contagious Diseases (Animals) Act.

Three cases of Anthrax were dealt with; two of the cattle were buried, and the carcase, hide, viscera, etc., of the third burnt at the Destructor. The disinfecting of the premises, utensils, etc., was carried out. At a third premises a suspicious case came under the notice of the Inspector; although this could not be definitely stated to be Anthrax, the usual disinfecting of the premises was carried out as a precaution.

Disinfection has also been carried out after Swine Fever.

Report of the Manager of the House Refuse Removal and Night Soil Department for the year 1908.

GENTLEMEN,

I beg to submit the following report for the year :—

Dry Refuse Department.

Fourteen Dust Carts and three Vans were collecting throughout the year and during the last three months I added another van which I anticipated in my last year's report.

I may add that the officials of the East Suffolk Hospital and Grammar School requested me some three months ago to remove the refuse three times weekly, which I found on my visit to be necessary as they have an immense quantity.

I have also been requested to remove refuse from H.M. Prison, twice weekly, which request I have complied with.

Number of calls, 1,041,500.

„ van and cart loads, 15,199.

Approximate weight, 11,968 tons.

Daily collection at close of year about 39 tons.

Number of loads of tradesmen's shop refuse during the year, about 1,850 of varying sizes.

Weight of same approximately 73 tons.

	£	s.	d.
Sale of decomposed refuse from the accumulation at Handford Hall Farm	3	14	4
Received for the removal of refuse other than house refuse from different premises	3	6	6
Sale of four old horses, one pony, and one carcase	59	10	10
	<hr/> £66 10 10 <hr/>		

Summary of Expenses.

	£	s.	d.
Wages	1226	12	6
Horse Keep	865	19	0
Renewals and Repairs	278	9	2
One new van	56	0	0
Rent of land at Handford Hall for house refuse	1	0	0
Two new horses and one pony	93	0	0
	<hr/> 2521 0 8 <hr/>		
Credit Receipts	66	10	10
	<hr/> £2454 9 10 <hr/>		
Nett Cost	£2454 9 10		

Night Soil Department.

This Department has been worked throughout the year by a staff of four men and two horses, averaging about three nights per week.

There now remain only 110 privies in the Borough; of these 39 are at Whitton, 6 Whitton Road Terrace, Norwich Road, 17 Rosher's Cottages, 7 Knight's Dales, 4 Helena Road, 1 Bramford Lane, 2 Bramford Road, 16 Beaconsfield Road, 2 Providence Lane, 2 Fore Hamlet, 11 Samuel Road, 1 Back Hamlet, 2 Blenheim Road, and six pails New Cut East, which are emptied weekly.

I recently supplied the Medical Officer of Health with the above list. 232 waggon loads have been collected during the year, 41 of these have been sold to farmers, 191 taken to Handford Hall and debited to the Farm account.

Two hundred and eighteen emptyings of soil bins were attended to in the twelve months. 276 emptyings of pails. 34 dead wells were emptied and charged for. 154 tubs and pits were emptied and charged for.

Sales and Earnings.

		£	s.	d.
191 waggon loads at 4/-	...	18	4	0
41 " " sold to farmers	...	5	18	0
34 emptyings of Dead Wells	...	23	4	0
154 Pits and Tubs	...	15	1	0
		<hr/>		
		£62	7	0
		<hr/>		

Summary of Expenses.

		£	s.	d.
Wages	...	167	12	4
Horse Keep	...	88	8	0
Repairs, Shoeing, etc.	...	4	16	6
		<hr/>		
		260	16	10
Credit Sales and Earnings		62	7	0
		<hr/>		
Nett Cost	...	£198	9	10
		<hr/>		

I am, Gentlemen,

Your obedient Servant,

HANDFORD HALL,
IPSWICH.

GEO. MOSS,
Manager,

METEOROLOGICAL TABLE.

Month.	Baro- meter.	Temperature.				Rainfall.		Deaths from Respira- tory Diseases.	Deaths from Diarrhoea.
		Maxi- mum.	Minimum.	Mean.	Earth.	Amount inches.	No. of days.		
January.	30·22	46·33	31·47	38·90	43·12	0·67	13	25	...
February.	30·00	49·34	35·48	42·41	42·48	2·36	28	34	..
March.	29·87	49·40	34·81	42·10	42·67	1·52	17	29	...
April.	29·93	52·70	36·60	44·65	43·42	1·84	14	19	...
May.	30·00	66·44	48·19	57·31	48·79	1·95	17	13	2
June.	29·97	71·64	51·85	61·74	53·20	0·61	4	1	...
July.	29·98	71·54	54·10	62·82	55·85	4·40	11	6	2
August.	30·00	71·02	52·90	61·96	57·16	1·44	13	9	5
September.	29·94	65·85	49·75	57·80	55·35	1·64	9	1	13
October.	30·12	63·11	48·44	55·31	54·36	2·28	11	9	12
November.	30·03	53·37	40·65	47·01	50·67	1·16	14	12	3
December.	29·91	48·04	37·60	42·82	48·07	1·67	16	19	...
Means of the Whole Year.	29·99	59·15	43·57	51·36	49·59	21·44	167	177	37

Comparative Table of the Birth-Rate, Death-Rate, and Analysis of Mortality during 1908 in England and Wales, the Great Towns of England and Wales, and Ipswich.

	Birth-Rate.	Death-Rate.		Principal Epidemic Diseases, Cols. 5-11.	Small Pox	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea	Deaths under 1 year per 1000 Births.
		Crude.	Corrected.									
Columns.	1	2	3	4	5	6	7	8	9	10	11	12
England and Wales	26.5	14.7	14.7	1 29	0 00	0.22	0.08	0.15	0.27	0.07	0.50	121
76 Great Towns ...	27.0	14.9	15.8	1.59	0.00	0.31	0.10	0.16	0.29	0.08	0.65	128
Ipswich ...	24.4	14.8	13.8	1.02	...	0.20	0.01	0.13	0.16	0.01	0.50	110
142 Smaller Towns	26.0	14.0	14.7	1.26	...	0.20	0.06	0.15	0.25	0.08	0.52	124
England and Wales (less the 218 Towns)	26.2	14.7	13.8	0.99	0.00	0.13	0.06	0.15	0.25	0.07	0.33	110

The figures given in this Table are provisional, except those referring to Ipswich.

TABLE I.

VITAL STATISTICS OF WHOLE DISTRICT DURING 1908 AND PREVIOUS YEARS.

Year.	Popula- tion estimated to Middle of each Year.	Births.		Total Deaths Registered in the District.				Total Deaths in Public Institutions in the District.	Deaths of Non-Residents registered in Public Institu- tions in the District.	Deaths of Residents registered in Public Institutions beyond the District.	Nett Deaths at all Ages belonging to the District.	
				Under 1 Year of Age.		At all Ages.					Number.	Rate.
		Number.	Rate.	Number.	Rate per 1000 Births registered.	Number.	Rate.					
1	2	3	4	5	6	7	8	9	10	11	12	13
1898	63679	1861	29.1	304	163	1087	17.0	131	38	—	1049	16.4
1899	64533	1785	27.5	333	186	1248	19.2	184	49	—	1199	18.5
1900	65587	1800	27.3	280	155	1276	19.4	208	55	—	1221	18.6
1901	66630	1902	28.5	333	175	1248	18.7	202	62	—	1186	17.8
1902	67840	1894	27.9	222	118	1023	15.0	213	53	—	970	14.2
1903	68818	1956	28.4	274	140	1110	16.1	204	57	—	1053	15.3
1904	69805	1925	27.5	271	140	1159	16.6	221	75	—	1084	15.5
1905	70802	1955	27.6	287	146	1089	15.3	195	52	—	1037	14.6
1906	71809	1909	26.5	274	144	1129	15.7	215	56	1	1074	14.9
1907	72825	1850	25.4	197	106	1147	15.7	218	58	1	1090	14.9
Averages for years 1898-1907.	68232	1883	27.5	277	147	1151	16.8	199	55	.2	1096	16.0
1908	73852	1808	24.4	200	110	1095	14.8	203	36	36	1059	14.3

TABLE II.

VITAL STATISTICS OF SEPARATE LOCALITIES IN 1907 and 1908.

(1) St. Margaret's—			1907.	1908.
Population estimated to middle of each year			19,077	19,417
Births registered	...	...	462	434
Deaths at all ages	...	...	224	220
Deaths under 1 year	...	...	44	33
(2) St. Clements—				
Population estimated to middle of each year			14,955	15,301
Births registered	...	...	385	386
Deaths at all ages	...	...	200	185
Deaths under 1 year	...	...	33	51
(3) Middle—				
Population estimated to middle of each year			7,557	7,562
Births registered	...	...	207	224
Deaths at all ages	...	...	111	92
Deaths under 1 year	...	...	30	22
(4) Bridge—				
Population estimated to middle of each year			13,766	13,908
Births registered	...	...	350	321
Deaths at all ages	...	...	170	167
Deaths under 1 year	...	...	42	35
(5) Westgate				
Population estimated to middle of each year			17,430	17,664
Births registered	...	...	446	443
Deaths at all ages	...	...	204	227
Deaths under 1 year	...	...	40	48

TABLE III.
Cases of Infectious Disease notified during the Year 1908.

Notifiable Disease.	Cases notified in whole district.						Total cases notified in each locality.					No. of cases removed to Hospital from each locality.					
	At all Ages.	At Ages—Years.					St. Margaret's I	St. Clement's 2	Middle 3	Bridge 4	Westgate 5	St. Margaret's I	St. Clement's 2	Middle 3	Bridge 4	Westgate 5	Total cases removed to Hospital
		Under 1	1 to 5	5 to 15	15 to 25	25 to 65												65 and upwards
Small-pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria (including Membranous croup)	105	...	27	70	3	5	16	24	5	48	12	14	19	5	42	9	89
Erysipelas	35	Ages not taken.					11	5	7	6	6	...	...	...	...	...	...
Scarlet Fever	69	...	18	40	7	3	18	16	6	12	17	17	16	5	5	12	55
Typhus Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever	15	...	1	5	4	5	2	4	3	1	5	1	3	2	1	5	12
Relapsing Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Continued Fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever	3	...	...	...	...	3	1	...	...	...	2	...	...	...	...	...	...
Plague	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	227	...	46	115	14	16	48	49	21	57	42	32	38	12	48	26	156

TABLE IV.

Causes of, and Ages at, Death during Year, 1908.

Causes of Death. 1	Deaths at the subjoined ages of "Residents" whether occurring in or beyond the District.							Total Deaths whether of "Residents" or "Non- Residents" in Public Institutions in the District. 9.
	All ages. 2	Under 1 year 3	1 and under 5. 4	5 and under 15. 5	15 and under 25. 6	25 and under 65. 7	65 and up- wards. 8	
Small-pox ... ..	...	...	...	...	...	...	...	..
Measles	15	4	8	3	...	...	...	3
Scarlet fever	1	...	..	1	..	...	...	1
Whooping-cough	12	6	6	...	...	...	...	...
Diphtheria (including Membranous Croup)	9	...	4	5	...	...	...	5
Croup	1	...	...	1	...	...	...	...
Fever { Typhus Enteric Other continued	...	..	..	...	...	...	...	...
	1	...	...	...	...	1	...	...

Epidemic influenza	23	...	1	3	...	9	10	3
Cholera ... ..	...	...	...	...	...	...	...	...
Plague ... ..	...	...	...	...	...	...	...	...
Diarrhœa	36	29	6	1	...	...	..	1
Enteritis	6	2	1	1	...	...	2	...
Puerperal fever	2	...	...	...	...	2	...	...
Erysipelas	3	...	...	...	...	2	1	1
Phthisis (Pulmonary Tuberculosis)	106	...	2	4	18	77	5	17
Other tuberculous diseases	41	12	10	6	3	10	...	9
Cancer, malignant disease ...	81	...	...	1	...	49	31	20
Bronchitis	81	17	6	...	...	18	40	4
Pneumonia	84	11	29	4	1	24	15	13
Pleurisy	3	...	...	...	...	2	1	...
Other diseases of Respiratory organs	9	1	2	...	...	4	2	1
Alcoholism (Cirrhosis of Liver)	8	...	...	...	...	8	..	1
Venereal diseases	13	10	...	...	...	3	...	7
Premature birth	32	32	...	...	..	...	...	...
Diseases and accidents of parturition	5	...	...	...	2	3	...	...
Heart diseases	101	...	1	1	3	59	37	23
Accidents	30	1	5	...	1	16	7	8
Suicides	9	..	...	...	...	8	1	...
All other causes	347	75	16	13	6	103	134	95
All causes	1059	200	97	44	34	398	286	203

The following Table compares the children inspected in respect of height, weight, and nutrition.

TABLE III.

12 Years.																						
Sex.	Height (inches).				Anthropo- logical Standard.	Weight (pounds).				Anthropo- logical Standard.	Nutrition.				Percentages.						Totals.	
	Above normal.	Normal.	Below Normal.	Average		Above Normal.	Normal.	Below Normal.	Average		Very Good.	Normal.	Fair.	Bad.	Height.		Weight.		Nutrition.			
															Above Normal and Normal.	Below Normal.	Above Normal and Normal.	Below Normal.	Very good and Normal.	Fair and Bad.		
Males ...	109	44	132	53·8	54·2	47	36	202	67·4	74·3	18	145	104	18	53·6	46·4	29·1	70·9	57·2	42·8	285	
Females	110	40	139	54·2	54·9	71	24	194	67·8	72·2	29	164	91	5	51·9	48·1	32·8	67·2	66·7	33·3	289	
Totals ...	219	84	271	54	..	118	60	396	67·6	...	47	309	195	23	52·7	47·3	31	69	62	38	574	
										5 Years.												
Males ...	92	31	41	40·5	39·7	48	23	93	37·2	38·6	15	113	33	3	75	25	43·3	56·7	78	22	164	
Females	81	33	48	39·9	39·4	40	19	103	37	37·6	10	109	40	3	70·3	29·7	36·4	63·6	73·4	26·6	162	
Totals ...	173	64	89	40·2	...	88	42	196	37·1	...	25	222	73	6	75·7	24·3	42·9	57·1	75·7	24·3	326	
										Admissions.											Heights and Weights.	Nutrition.
Males ...	182	106	161	100	77	272	34	418	176	9	64·1	35·9	39·4	60·6	71	29	449	637
Females	203	106	161	121	75	274	44	441	163	15	65·8	34·2	41·7	58·3	73·1	26·9	470	663
Totals ...	385	212	322	221	152	546	78	859	339	24	65	35	40·6	59·4	72·9	27·1	919	1300

REPORT TO THE EDUCATION COMMITTEE ON THE MEDICAL INSPECTION OF SCHOOL CHILDREN.

The Medical Inspection of the children attending Public Elementary Schools was begun on the 18th May, 1908.

In order to carry out this work the following scheme was adopted for the first year's working :—

(1) The Medical Officer of Health was appointed the School Medical Officer. The duties of the Medical Officer of Health in the matter have been apportioned as follows :—

(a) He is responsible for the carrying out of the whole of the work.

(b) He is required to personally carry out that part of the work which is concerned with the prevention of the spread of epidemic diseases.

(c) He is required to examine the children in all special cases.

(d) He shall write the Annual Report.

As the routine work of inspection was obviously more than could be undertaken by the Medical Officer of Health alone, it was decided to appoint an Assistant Medical Officer of Health, part of whose duties would be the work of inspection of school children. This gentleman began his duties on the 18th May.

In order to help in the work a School Nurse has been appointed, whose duties are partly concerned with the actual work of inspection in the schools, and partly with the no less essential work of visiting the children in their homes where necessity arises. It may at once be said that experience has shown that this duty is of the very first importance.

It was decided that during the first year inspection should be carried out as follows :—

(1) All children, or rather as many as possible, admitted to the schools during the year.

(2) Children of the age of 5 years. Obviously many of the admissions would be of this age.

(3) Children of the age of 12 years.

The whole of the inspections carried out during the year have been in accordance with these selected groups.

For the year 1909 another procedure has been adopted, as follows:—

(1) Inspection of all admissions.

(2) Inspection of children of 13 years of age. This age has been selected because it is so near the age at which the children leave school, that all children about to leave will receive inspection, and also because it will largely do away with the necessity for inspection on leaving school.

(3) Inspection at the age of 9 years.

(4) Inspection at 5 years of age.

In order to systematise the work of inspection it was necessary to arrange a time table of the schools to be inspected, so that each school should receive due attention. It thus arises that the work of inspection is greatly facilitated since the teachers are prepared for the procedure, and it is possible at each visit to a school to arrange for the children who are to come up for examination at the next inspection. Some scheme of this sort is quite essential, and the one which has been adopted works smoothly.

The actual work is carried out as follows:—

(1) The Medical Inspector and the Nurse visit each school in the order laid down in the Time Table.

The children due for inspection on this date are inspected, the School Nurse assisting in the work by preparing the children for inspection, taking the heights and weights, and entering particulars as to any other points on the cards during the actual inspection.

(2) The children are examined by the Medical Officer, who directs the entries of the facts elucidated by the examination in cards of the form approved by the Education Board, supplies of which are kept at each school. Any points which the teachers can supply are noted at the same time.

(3) After the inspection of the children ready on the particular date it is the duty of the School Nurse to arrange for the children who will have matured for the next examination, to be present, accompanied by one or both parents. For this purpose she has recourse to the School Register in order to discover what children have attained the ages at which inspection takes place, and also whether there are any admissions not yet inspected.

Having obtained these particulars, she then makes out notices which are sent to the parents of these children, stating that the child will be examined at the next inspection and requesting the parents to be present on that date. The result of this is that very

little work is thrown on the teachers, practically the whole of the work being done by the Nurse.

The cards are kept at the schools. When a child has been inspected at the age of, say, 5 years, the card with the particulars duly entered, is transferred to the box for the cards of children at 9 years of age, which is the next time that the child will be inspected unless something exceptional occurs in the meantime. In this case it is a simple matter to find the card.

(4) In order that the work may be kept up to date, a series of forms are kept in the office of the Medical Officer of Health arranged so that there is one form for each age period for each school. In order that these forms may be kept up to date, the cards are brought away from each school after each inspection and the results of inspection entered on these forms daily. The cards are then returned to the school on the occasion of the next visit.

(5) In addition to the children actually due for inspection, the teachers are requested to bring forward any child who may appear to require examination for any special reason. This refers especially to infectious or contagious conditions.

(6) In addition to the children actually inspected in the schools many children are examined for special reasons at the office of the Medical Officer of Health.

It may at once be stated that this method of inspection has worked well up to the present, and there appears to be no reason why it should not continue to act equally well in the future.

The results of inspection are exhibited in the following series of Tables:—

TABLE I.

This Table indicates the number of children examined since the institution of Medical Inspection on the 18th May, and up to the end of the year.

It is to be noted that the number of admissions inspected includes children of very various ages which have not been classified. The inspections at 5 years of age include admissions who happen to have been at that age on the date of inspection.

Sex.	Admissions.	5 years of age.	12 years of age.	Totals.
Males	637	164	285	1086
Females	663	162	289	1114
Totals	1300	326	574	2200

TABLE II.

In this Table the children inspected are grouped in the same way as in the previous Table, but in addition are divided according as they are normal or defective in each group. The percentage defective in each group is also given for both sexes.

Sex.	Admissions.				5 years of age.				12 years of age.				Totals.			
	Normal.		Defective.		Normal.		Defective.		Normal.		Defective.		Normal.		Defective.	
Males	248	39%	389	61%	62	37·8%	102	62·2%	113	40%	172	60%	423	39%	663	61%
Females	206	31%	457	69%	59	36·4%	103	63·6%	78	27%	211	73%	343	30·8%	771	69·2%
Totals	454	35%	846	65%	121	37·2%	205	62·8%	191	33·3%	383	66·7%	766	34·8%	1434	65·2%
Grand Totals	1300				326				574				2200			

A point of great interest is thus brought out. It is evident that about two thirds of the children inspected exhibit some defect, and it is clear that this tendency is equally evident in each group. Thus the tendency to defect is practically the same at the two definite age groups, whilst the indeterminate age group of admissions also shows practically the same per centage of defective children.

It is not suggested that the defects are serious in all cases, since in many instances the defect is but slight. The defects referred to are actual pathological conditions, no doubt, but frequently the departure from the normal requires a skilled observer for their discovery. Therein lies one of the chief arguments for the necessity of medical inspection.

The large percentage of defect is principally due to the large number of cases of tonsils and adenoids, pediculosis, and defective teeth.

Observations as to clothing have been made with care, but the results have shown that the notice given to the parents that the child is to be inspected, has resulted in the child being specially prepared for the purpose. Thus in only 60 instances out of 2200 children inspected was the clothing such as could be described as actually bad. Again, out of the same number, 109 were found not to be clean. This works out at a little below 5%. Experience would suggest that this is considerably below the normal per centage.

The following Table compares the children inspected in respect of height, weight, and nutrition.

TABLE III.

12 Years.																						
Sex.	Height (inches).				Anthropo-logical Standard.	Weight (pounds).				Anthropo-logical Standard.	Nutrition.				Percentages.						Totals.	
															Height.		Weight.		Nutrition.			
	Above normal.	Normal.	Below Normal.	Average		Above Normal.	Normal.	Below Normal.	Average		Very Good.	Normal.	Fair.	Bad.	Above Normal and Normal.	Below Normal.	Above Normal and Normal.	Below Normal.	Very good and Normal.	Fair and Bad.		
Males ...	109	44	132	53·8	54·2	47	36	202	67·4	74·3	18	145	104	18	53·6	46·4	29·1	70·9	57·2	42·8	285	
Females	110	40	139	54·2	54·9	71	24	194	67·8	72·2	29	164	91	5	51·9	48·1	32·8	67·2	66·7	33·3	289	
Totals ...	219	84	271	54	..	118	60	396	67·6	...	47	309	195	23	52·7	47·3	31	69	62	38	574	
5 Years.																						
Males ...	92	31	41	40·5	39·7	48	23	93	37·2	38·6	15	113	33	3	75	25	43·3	56·7	78	22	164	
Females	81	33	48	39·9	39·4	40	19	103	37	37·6	10	109	40	3	70·3	29·7	36·4	63·6	73·4	26·6	162	
Totals ...	173	64	89	40·2	...	88	42	196	37·1	...	25	222	73	6	75·7	24·3	42·9	67·1	75·7	24·3	326	
Admissions.																						
Males ...	182	106	161	100	77	272	34	418	176	9	64·1	35·9	39·4	60·6	71	29	449	637
Females	203	106	161	121	75	274	44	441	163	15	65·8	34·2	41·7	58·3	73·1	26·9	470	663
Totals ...	385	212	322	221	152	546	78	859	339	24	65	35	40·6	59·4	72·9	27·1	919	1300

The following points of interest are brought out by this Table :—

(1). At all ages the height is above the average given by the Anthropological Commission (England). This is markedly so at 5 years of age, no less than 75% of the children being above this average. This percentage is not maintained at the 12th year of life, since only 52% of the children are above the average at this period. It would thus appear as if the children in Ipswich grew more rapidly during the first 5 years of life than the children in the country as a whole, but that this rate of growth is not maintained during later years. The figures for the admissions point to the same conclusion, bearing in mind that they represent the averages of several different ages.

(2). With regard to weight, the exact opposite is the case. The average weight of the children examined was below the average fixed by the Commission. This was least marked at 5 years of age, and very marked at 12 years of age. Again, the mixed class of admissions corroborates the evidence brought forward by the fixed ages.

(3). Nutrition follows the same course as height, 75% of the children of 5 years of age showing good or normal nutrition. In only 6 children at this age could the nutrition be described as bad.

At 12 years of age the percentage of good nutritions is lower than at 5 years, whilst as before the facts are emphasised by the returns of the mixed class of admissions.

Of 2,200 children examined, only 53 could be described as being badly nourished.

Tonsils and Adenoids.

Table IV. shows the numbers of children in whom enlarged tonsils and adenoids were found.

Amongst the 12 year olds the tonsils were either normal or only slightly enlarged in 79% of those examined.

With respect to adenoids notable enlargement was found in only 6.8% of the children at this age.

In the case of the 5 year olds, tonsillar enlargement was more prevalent, particularly amongst males. Of the total examined 27.7% showed considerable enlargement.

The degree of prevalence of adenoids was markedly greater in the case of 5 year olds, than in the case of 12 year olds, no fewer than 24.6% of the children in this group showing marked evidence of this condition.

It would appear as if adenoids tend to disappear as the child grows older. In this relation it must not be forgotten that adenoids exhibit their worst effects upon young children and that permanent damage to the constitution often results from want of treatment.

The results of the examination of the mixed group of admissions again supports the results of the examination of children at the fixed ages.

TABLE IV.

12 Years.													
Sex	TONSILS				ADENOIDS				Per centages				Totals
	Normal	Slight Hypertrophy	Medium Hypertrophy	Marked Hypertrophy	Absent	Slight	Medium	Bad	Tonsils	Adenoids			
Males ...	93	129	42	21	214	53	16	2	77·7	22·3	93·6	6·4	285
Females	104	129	43	13	207	61	16	5	80·6	19·4	92·3	7·7	289
	197	258	85	34	421	114	32	7	79	21	93·2	6·8	574
5 Years.													
Males ...	31	84	40	9	62	66	31	5	70·1	29·9	78	22	164
Females	42	83	30	7	67	51	37	7	77·1	22·9	85·1	14·9	162
	73	167	70	16	129	117	68	12	72·3	27·7	75·4	24·6	326
Admissions.													
Males ...	164	341	101	31	302	212	95	28	79·3	20·7	80·7	19·3	637
Females	186	324	129	24	334	208	94	27	76·9	23·1	81·7	18·3	663
	350	665	230	55	636	420	189	55	78	22	81·2	18·8	1300

Teeth and Glands.

Examination of the teeth of the school children has shown that a perfect set of teeth is practically non-existent. This remark applies equally to all the groups.

Only 33% of the children of 12 years of age had good teeth, whilst 43% of the children of 5 years of age had good teeth.

As in other conditions the admissions were intermediate.

It is quite evident that the teeth of the children are badly neglected, and in view of the disastrous results which accrue from faulty teeth, this cannot be regarded as other than a very grave matter.

Granular Enlargements were found in a little over 5% of the children examined. On the whole, males were worse than females in this respect. The Cervical Glands were found to be enlarged more frequently than the Submaxillary.

TABLE V.

12 Years.

12 Years.														
SEX.	TEETH.			GLANDS.				PERCENTAGES.						Totals.
				Cervical.		Submaxillary.		TEETH.			GLANDS.			
	Cervical.	Submaxillary.												
	Good.	Damaged.	Bad.	Normal.	Enlarged.	Normal.	Enlarged.	Good.	Damaged.	Bad.	Enlarged.	Enlarged.		
Males ...	99	148	38	273	12	277	8	34.7	32	13.3	4.2	2.8	285	
Females...	93	170	26	278	11	285	4	32	59	9	3.8	1.3	289	
	192	318	64	551	23	562	12	33.3	55.3	11.4	4	2	574	
					5 Years.									
Males ...	69	73	22	154	10	154	10	42	44.5	13.5	6	6	164	
Females...	73	63	26	152	10	156	6	45	39	16	6	3.7	162	
	142	136	48	306	20	310	16	43.6	41.7	14.7	6	5	326	
					Admissions.									
Males ...	235	299	163	593	44	617	20	36.7	47	16.3	6.8	3	637	
Females...	246	349	68	635	28	651	12	37.1	52.6	10.3	4.2	1.8	663	
	481	648	171	1228	72	1268	32	38	49	13	5.5	2	1300	

Eyes.

The results of the examination of eyes of children of 12 years of age showed that no fewer than 21 % exhibited some error of refraction, the nature of which could only be accurately discovered by an examination at the Eye Department of the Hospital. This age only was taken because errors of refraction cannot be satisfactorily determined in children of very tender years, in the schools, without special means of examination.

The presence of this high percentage of defect is a matter of serious import, and calls for treatment.

In order to assist in the work of the Eye Department of the Hospitals, Dr. Johnston gives up one afternoon each week, thereby rendering it possible for each child to receive that attention which otherwise would be beyond the unaided powers of the Department. Although this work is essential it is not an official part of Dr. Johnston's duties.

External Eye diseases were found in 5 % of all the children examined. As a rule there is little difficulty in getting treatment in these cases.

12 Years.			All ages.		Percentages.	
Sex.	Errors of refraction.	Total.	Ext. Eye Diseases.	Total.	Errors of refraction.	Ext. Eye Diseases.
Males.	56	285	68	1086	19·7	6·2
Females.	65	289	49	1114	22·5	4·4
	121	574	117	2200	21·1	5·3

Ears.

Diseases of the ear were not numerous. Otorrhœa was present in 11 cases out of the total examined.

Defective hearing was found in 69 cases amongst the 12 year olds, or 12 % of the children examined.

In the case of 5 year olds, 6 children were defective, or 18 %.

In the case of admissions, 74 were defective, or 5·6 %.

Clearly, therefore, the defect was by far the most marked amongst the older children.

In all probability some of this preponderance was due to neglected adenoids, whilst others were due to neglected ear diseases.

Speech.

With respect to speech, amongst the 12 year olds 5 were stammerers, 1 had a lisp, while 2 suffered from other defects of speech.

Amongst the 5 year olds, there were no stammerers, 3 had a lisp, and 2 suffered from other defects.

Amongst the admissions, there were 7 stammerers, 7 who lisped, whilst 13 suffered from other defects.

Mental Condition.

Enquiry into the mental condition of the children revealed the following. It is to be noted that the teacher's opinion is always obtained on this matter.

Marked mental defect was found in 13 cases. Of these 11 were males.

Of 285 boys of 12 years of age, 26, or 9.1 %, were described as bright; 28, or 9.8, as dull; whilst 231 were classified as average.

Of 289 girls of 12 years of age, 33, or 11.4 %, were described as bright; 24, or 8.3 %, as dull; and 232 as average.

Thus the girls showed slightly higher intelligence than the boys.

The assessment of the intelligence of 5 year olds is of little real value, but it may be mentioned that out of 326 examined at this age, 12 were described as bright, 6 as dull, and 308 as average. There was no difference between the boys and girls.

Of the admissions there were discovered amongst 637 boys, 32, or 5 %, who were described as bright, the same number who were dull, 568 average, and 5 mentally deficient.

Among 663 girls, 46, or 7 %, were bright; 55, or 8.3 %, were dull, whilst 562 were average.

Nervous System.

Very few pathological conditions of the nervous system were found. Amongst 2,200 examined there was 1 case of chorea and 1 of epilepsy.

Circulatory System.

Diseases of the circulatory system were quite rare. Thus only 15 pathological conditions were found out of the whole number of children examined.

Respiratory System.

Pathological conditions of the respiratory system (exclusive of tubercle) were present in 47 of the children. These were proportionately most numerous in the children of 5 years of age. Fourteen of the cases were bronchitis.

Tuberculous Conditions.

The following is a brief summary of the Tubercular conditions found.

Amongst the 12 year group, there were 9 cases of Tubercle of the Lungs, 8 males and 1 female, and 1 of the Tubercle of the glands.

Amongst the 5 year olds there were 4 cases of Tubercle, viz, 1 tubercle of bone, 3 of phthisis, viz., 2 males, 1 female.

Amongst the admissions there were 12 cases of Tubercle of the Lungs, of whom 8 were males, 6 cases of Glandular Tubercle all males, 2 cases of bone Tubercle both females, and 1 case of joint tubercle, also a female.

Thus in the total number of children examined there were 24 cases of Tubercle of the Lungs, and 11 cases of Tubercle of other parts of the body. Of the total cases of Tubercle 25 were males

Tubercular diseases were therefore present in a little over 1 % of the children inspected.

Deformities.

The following Table shows the number of Deformities discovered.

Sex.	Chest.	Spine.	Deformities of the:—		Total.
			Extremities.	All Others.	
Males	45	3	11	26	85
Females	5	5	1	20	31
Totals	50	8	12	46	116

It must not be imagined that all these deformities are severe conditions. In many cases the deviation from the normal is not at all marked.

Skin Diseases.

Skin diseases found were as follows :—

(1) Pediculosis. Amongst the children of 12 years of age, 32 boys or 11·2 %, and 145 girls or 50·1 % were found to be suffering from dirty and verminous conditions of the head.

In the case of 5 year olds, 16 boys or 9·7 % and 44 girls or 27·1 % had verminous heads,

In the case of the admissions 51 boys or 8 %, and 216 girls or 32.5 % had verminous heads.

Thus the girls were much worse than the boys, and the older girls were much worse than the younger children.

No doubt the explanation is to be found in the long hair of the girls and the difficulty of keeping the head clean under conditions of constant exposure to reinfection from other verminous children.

There is a satisfactory improvement in the number of cases of Pediculosis since medical inspection was established.

(2) One hundred and forty six cases of Ringworm required exclusion for varying periods. Of these 62 were found in school, whilst 84 were sent to the offices for diagnosis.

The question of ringworm is a most serious matter as it is the cause of much loss of attendance due, not only to the prolonged course of the disease but also to the difficulty of getting people of the poorer classes to obtain the necessary treatment. It is more often than not the case that the child is treated by a Chemist, no medical attention being provided by the parents, and that the child is stated to be cured when such is far from being the fact. Many cases stated by the Chemist to be cured are found in the schools in a condition capable of actively spreading the disease. It is not too much to say that until this procedure is stopped, ringworm will continue to cause loss to the Educational efficiency of the Borough and loss in the Grants earned by the schools. An improperly treated case of ringworm may mean months of absence from school.

(3) Scabies or "Itch" was found in 40 cases. Of these 16 were found during the course of the ordinary inspections, whilst 24 were seen at my office. The same difficulty was found with respect to the treatment by Chemists.

(4) Impetigo Contagiosa was found in 49 cases. Of these 30 were found during school inspection, whilst 19 were sent to my office.

With regard to the treatment of all skin diseases, it may be stated that the majority are treated without the requisite skilled medical attention, with results which are disastrous to the school attendance and to the welfare of the patient.

With reference to ringworm, etc., it is very essential that no child should be re-admitted to school without a medical certificate to the effect that the child is free from all infection. For this purpose a triplicate form has been prepared, one part of which is used for the purpose of exclusion, one part is kept as a duplicate for reference, whilst the third is for the purpose of re-admission to school on recovery.

Zymotic Diseases.

Although this subject has been fully treated in the report to the Health Committee, it may again be pointed out that no fewer than 14 cases of diphtheria were found in actual attendance at school, as well as one case of scarlet fever, 8 cases of chicken pox, and 3 cases of whooping cough.

It is obvious what an amount of infection may thus be disseminated through school agency. This fact is all the more grave when one considers that the schools are full of susceptible material of an age at which exposure to infection is most likely to be followed by attack.

The cases most likely to cause trouble in school are the mild unrecognised cases and "carriers."

Yet again it happens that there are not a few parents so ignorant and so indifferent alike to the health of their own children and others, that they will send their children to school with the rashes of infectious disease actually out.

Another difficulty is the result of the extraordinary decision of the Legislature to abolish the Epidemic Grant. The result of this short-sighted step has been to place untold difficulties in the way of the sanitarian in waging the battle against infectious disease. Formerly it was to the interest of the teachers to exclude from school every case which was at all doubtful. It is now far otherwise. The teacher, in order to earn the maximum grant, naturally tries to get the highest possible attendance, with the result that there are many children in school who should not be there, particularly at epidemic times. It is true that this is not the best policy, but we must recollect that we must look at the matter from the point of view of the teacher as well as the pupils. The teacher cannot be expected to know when a child is suffering from an infectious disease, say, diphtheria, but he is expected to secure the highest grant. This can only be done by securing the attendance of every possible child at school.

Before leaving this part of the subject it will be well to refer to the subject of vaccination, prefacing the matter by the statement that Vaccination and Re-vaccination are the only preventives of small pox.

Out of 2141 children examined for evidences of Vaccination, 860 or 40 % had not been vaccinated. That is to say, that nearly one half of the child population is unprotected. As childhood is an age very prone to smallpox and as unvaccinated children exhibit an appalling mortality when attacked, this fact can only be viewed with grave concern, since the introduction of smallpox is inevitable at some time or other. Experience has shown that smallpox tends to recur at periodic intervals, and that its introduction amongst an unprotected community may mean an epidemic which can only be eradicated at great monetary cost to the community and at the cost of the lives of many of its victims.

Examinations at Office.

In addition to the number of children examined at School, 376 were seen by me at my office. The conditions for which they were examined were very various, but were mostly for the purpose of exclusion for various diseases such as Ringworm, Scabies, Impetigo, etc.

Included in this list is the examination of 28 students for fitness on medical grounds.

School Nurse.

In addition to her work in the schools the following work was accomplished by the School Nurse during the year.

Three hundred and ninety-seven visits were paid to the homes of 252 children excluded for various reasons. There is no doubt but that this procedure secured an amount of treatment far in excess of what would have been secured without such visitation. Practically the whole of these children were treated, either by their own medical man or at the hospital, or by the Poor Law Medical Officer.

In addition to this work the Nurse paid 254 visits to the parents of 276 children for the purpose of recommending treatment for conditions not requiring exclusion from school, such as defective teeth, tonsils, adenoids, etc. It is satisfactory that the great majority were under treatment either at the hands of their own medical man or at the hospital.

Thus the Nurse paid 651 visits for the purpose of securing treatment. I again repeat that this is an essential part of all well devised schemes for the securing of the best results from inspection.

Thus, so far as the work has gone, the results must be described as satisfactory, and the more one sees of medical inspection the more necessary does it appear to be.

Experience has shown that there are many school children labouring under easily remedied but unrecognised physical defect, which, in the absence of some form of medical inspection, would go undetected, with results disastrous alike to the physical and mental welfare of the child. Tonsils and adenoids are a well marked example of this.

Whilst it would be premature to endeavour to forecast the results of the inspection of school children, it is still possible to state that medical inspection, instead of diminishing in the future will tend to increase as the Public begin to realise that its primary object is the welfare of the child from every point of view.

Attendance of Parents.

One or other parent was present at 75 % of the inspections.

I have to thank Dr. Johnston for the way in which he has carried out the work of actual inspection, and for much valuable assistance in preparing this Report. Dr. Johnston's special knowledge of eye diseases and of throat conditions has been of great value in the carrying out of the work.

My thanks are also due to the Teachers for the assistance they have so willingly given in the establishment of a complex and novel departure in school work. Without such assistance the work would have been far more difficult than has actually been the case.

